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ABSTRACT

This document provides the final report of a survey conducted by the 1985 National Assessment of Educational Progress (NAEP) to assess the literary skills of America's young adults. Chapter I provides the rationale for conducting a study of literacy proficiencies of young adults aged 21 to 25. The purpose and conceptual framework of the research are set against a brief discussion of prior assessment efforts. Chapter II reviews the instrumentation and methodology (focusing on the assessment design), the data collection activities, the scoring and entry of data, and the scaling of the simulation tasks. Major sections of Chapter III deal with the dimensionality of literacy skills, scaling the adult literacy tasks, and describing and anchoring the literacy scales. Chapter IV profiles proficiencies for the total group of young adults assessed on each of three literacy scales. Chapter V compares young adults with in-school populations and describes performance at five levels of reading proficiency. Young adults are characterized in Chapter VI using three variables as a framework--race/ethnicity, parental education, and respondent's education. Chapter VII presents analyses investigating the relationship among demographic characteristics, educational variables, literacy practices and the four literacy outcome measures. The oral-language assessment is described in Chapter VIII. Appendices contain: (1) sampling, weighting, and sample error estimation; (2) scaling and scoring procedures; (3) data; (4) the background and attitude questionnaire; and (5) a list of consultants used to develop and review assessment and exercises. (LMO)

ED275701

LITERACY:

Profiles of America's Young Adults

FINAL REPORT

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LITERACY:
PROFILES OF AMERICA'S YOUNG ADULTS

FINAL REPORT

September 1986

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IK and AJ

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OVERVIEW, FINDINGS, AND CONCLUSIONS

In 1985 the National Assessment of Educational Progress (NAEP) assessed the literacy skills of America's 21- to 25-year olds. The purpose of the assessment was to collect data that would enable us to better understand both the nature and the extent of literacy problems facing young adults. NAEP used a wide variety of tasks that simulate the diversity of literacy activities that people encounter at work, at home, at school, and in their communities. In order to take account of the many points of view that exist regarding literacy, NAEP convened panels of experts who helped set the framework for this assessment. Their deliberations led to the definition of literacy adopted:

> Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.

Inherent in this definition are two important distinctions. The first is that the definition rejects an arbitrary standard such as signing one's name, completing five years of school, or scoring at the eighth-grade level on a test of reading achievement. Second, following from the work of William S. Gray in the 1950s and national literacy surveys of the 1970s, it implies a set of complex information-processing skills that go beyond decoding and comprehending textual materials.

To conduct this assessment, NAEP drew a nationally representative household sample of 21- to 25-year olds living in the 48 contiguous United States. Some 40,000 households were contacted to locate and assess approximately 3,600 young adults. The assessment was conducted by some 500 interviewers, and each interview lasted about 90 minutes. Approximately 60 of the 90 minutes were devoted to measuring proficiencies on tasks that simulate those encountered in various adult settings.

The remaining 30 minutes were devoted to obtaining background information that could be related to performance on the simulation tasks. Questions focused on the respondent's current reading and writing activities, occupational status and aspirations, educational and early language experiences, and home characteristics.

NAEP's decision to focus its attention on our country's approximately 21 million young adults aged 21 to 25 years recognizes the importance of this population -- they are among the most recent entrants into the labor force and yet represent (after teenagers) the largest proportion of unemployed in this country. Perhaps more important, projections indicate that the composition of this young-adult population will change in significant ways over the next decade. The total number of individuals aged 21 to 25 is expected to decrease from around 21 million to 17 million, but the total group will include a larger proportion of minority group members.

NAEP characterized the literacy skills of America's young adults in terms of three "literacy scales" representing distinct and important aspects of literacy:

- prose literacy -- the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and the like. Three qualitatively different aspects of reading comprehension were identified as important for successful performance on the prose scale -- matching information from a question to identical or corresponding information in text, producing or interpreting text information, and generating a theme or organizing principle from text. Each of these aspects contributes to a broad range of difficulty, with significant overlap in difficulty among the three.

- document literacy -- the knowledge and skills required to locate and use information contained in job applications or payroll forms, bus schedules, maps, tables, indexes, and so forth. Difficulty of the tasks on the document scale was associated with increases in the number of features or categories of information the reader has to locate, the number of categories of information in the document that can serve as distractors (or plausible right answers), and as the information needed to answer a question has less obvious identity with the information stated in the document.

- quantitative literacy -- the knowledge and skills needed to apply arithmetic operations, either singly or sequentially, that are embedded in printed materials, such as in balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement. Task difficulty is associated with the particular operation required (addition, subtraction, multiplication, and division), the number of operations needed, and the extent to which the numerical information is embedded in print.

Simulation tasks representing each of the three literacy scales are described on the basis of task characteristics that relate to the complexity of the processes required for successful performance and not by the vocabulary or sentence length of the printed material. In addition, results for young adults are also presented on a fourth scale: the reading proficiency scale developed by NAEP to report results from its 1983-84 reading assessment. Exercises from the NAEP reading scale were included to link the performance of young adults to that of NAEP's in-school population.

Findings

- The literacy problem identified for the nation's young adults can be characterized in two ways: While the overwhelming majority of young adults adequately perform tasks at the lower levels on each of the three scales, sizable numbers appear unable to do well on tasks of moderate complexity. Only a relatively small percentage of this group is estimated to perform at levels typified by the more complex and challenging tasks.

- Inevitably, smaller percentages of young adults are found to perform at increasing levels of proficiency on each of the scales. The fact that fewer and fewer individuals attain these moderate and high levels of proficiency is most pronounced for young adults who terminate their education early and for minority group members.

- Black young adults, on average, perform significantly below White young adults -- by almost a full standard deviation. Hispanic young adults, on average, perform about midway between their Black and White peers. These differences appear at each level of education reported.

- Home-support variables (such as parents' education and access to literacy materials) were found to be significantly related to the type and amount of education and to the literacy practices reported by young adults. These, in turn, help to explain differences in literacy-skill levels.

- On average, young adults perform significantly better on the NAEP reading scale than do in-school 17-year olds. This finding suggests that further education and participation in society contribute to the improvement of reading skills represented by that scale.

- Only about two percent of this young-adult population were estimated to have such limited literacy skills that it was judged that the simulation tasks would unduly frustrate or embarrass them. Roughly one percent (or about half) of this group reported being unable to speak English.

- The English-speaking one percent, instead of attempting the simulation tasks, responded to a set of oral-language tasks. The comparatively low performance indicates that this group (about 225,000 people) may have a language problem that extends beyond processing printed information.

The findings highlighted here, in the context of the full study, have important implications for program planning and policy decisions and led us to a number of conclusions about the nature and extent of the literacy problem for 21- to 25-year olds.

Conclusions

- The findings of this 1985 study clearly indicate that "illiteracy" is not a major problem for the population of 21- to 25-year olds. It is also clear, however, that "literacy" is a major problem.

Evidence in support of this conclusion follows from a comparison of the performance of young adults with literacy standards applied by scholars and historians. Virtually all young adults today demonstrate the ability to sign their name, thus making them literate according to standards applied to information available more than 100 years ago. Roughly 95% of the young adults reach or surpass the level of reading typical of the average fourth grader -- the fourth grade being the standard adopted by the military almost half a century ago. By more recent standards, 80% of young adults are estimated to read as well as or better than the average eighth-grade student and more than 60% are estimated to read as well as or better than the average eleventh-grade student.

Further evidence from this assessment reveals that most young adults demonstrate the skills and strategies associated with tasks at the lower end of each of the prose, document, and quantitative scales. That is, more than 95% reach or surpass the 200 level on each literacy scale, thus indicating some level of proficiency in using printed materials found in our society. For example, simulation tasks characteristic of performance at about the 200 level include: writing a brief description about a job, locating a fact in a sports article, matching grocery store coupons to a shopping list, entering personal information on a job application, and filling in information on a phone message form. Approximately three-quarters of the young adults are estimated to reach or surpass the 275 level on each scale. Simulation tasks that typify performance at about he 275 level include: writing a letter about an error on a monthly bill statement, generating a familiar theme from a poem, interpreting instructions from an appliance warranty, using an index from an almanac, locating information from a table of employer benefits, and entering information and calculating a checkbook balance. Yet only slightly more than one-third are estimated to be at or above the 325 level and, by the 350 level, we find only about one-fifth of the young adults, with only roughly one-tenth estimated to be at or above the 375 level. (See Chapters III and IV).

Thus, in relation both to the performance of school-based reading tasks and to performance on the broad range of literacy tasks most typically associated with nonschool contexts, these data do not support the claim that large proportions of the young adult population are illiterate. However, these data do reveal that large proportions of young-adults are estimated to perform in the middle range -- 275 to 325 -- on each of the literacy scales. Within this broad range of proficiencies, individuals are neither totally illiterate nor fully literate -- to the extent that they are estimated to successfully perform society's more challenging tasks.

- Unless appropriate intervention strategies are developed and implemented to meet the diverse needs of these current young adults as well as to promote higher literacy proficiencies among the younger, school-age populations, there will be a less literate pool of young adults in the next decade from which colleges, universities, industry, and the military will be able to draw to meet their human resource needs.

Young adults who have terminated their education at an early point as well as minority group members are estimated to be disproportionately underrepresented at the middle- and high-proficiency levels.

Performance differences among respondents' reported levels of education are large and increase in magnitude at successive points along each of the scales. For example, 84% of persons with some high school experience, 97% of those who graduated from high school and/or have some postsecondary experience, and 99% of those earning postsecondary degrees are estimated to be at or above the 200 level on each of the scales. Discrepancies among groups differing in educational attainment become more pronounced by about the 275 level. Less than 30% of those reporting 0 to 8 years of education reach or surpass this 275 level. The percentage increases to 40% for those with some high school experience, rises to 68% for those with high school diplomas and/or some postsecondary experience, and reaches 91% for those earning postsecondary degrees. By the 350 level the decrease in percentages of each group are even more dramatic. Here, only 40% of those earning postsecondary degrees are estimated to be at or above the 350 level while only 12% of those with high school diplomas and/or some postsecondary experience, less than 4% of those reporting some high school experience, and less than 1% of those with 0 to 8 years of education achieve this or higher levels.

As with performance differences among reported levels of education, this assessment finds that on average White young adults surpass minority groups beginning at the 200 level on each of the scales and these differences increase in magnitude at succeeding levels. More than 95% of White, 90% of Hispanic, and 82% of Black young adults are estimated to be at or above the 200 level. Again by the 275 level, the percentages decrease to 78% of White and roughly 57% of Hispanic and 39% of Black young adults. By the 350 level, the percentages drop sharply for each group while the relative magnitude of the differences increases -- approximately 25% of White, 10% of Hispanic, and just under 3% of Black young adults are estimated to attain or surpass this level. That is, for example, the ratio of percentages of White and Black young adults is two to one at the 275 level as compared with a ratio of more than eight to one at the 350 level.

These findings, while disturbing in and of themselves, take on increased importance in light of the changing patterns of demographics projected for the young adult population. Within the next decade, it is expected that the total number of young adults aged 21 to 25 will shrink from around 21 million to roughly 17 million and will be comprised of increasing proportions of individuals from minority groups. If these population estimates are accurate, and unless appropriate intervention strategies are developed and implemented, there will be a less literate pool of young adults from which America can draw to meet its human resource needs.

The above discussion helps to specify the extent of the literacy problem and it becomes apparent that characterizing America as an "illiterate nation" is a little like characterizing America as a "diseased nation." Although millions of our citizens suffer each year from debilitating illnesses, as a nation we are living longer and healthier lives than ever before. Similarly, although some of our citizens reach adulthood unable to read and write, as we have seen, illiteracy is not a major problem for young adults. Nevertheless, the results of this assessment do indicate that literacy is a problem for young adults and we turn now to an examination of the nature of that problem.

- Analyses suggest that, in many instances, literacy tasks require individuals to apply complex information-processing skills and strategies. Some tasks, for example, require the reader to identify needed information, locate that information in complex displays of print, remember it, combine it with additional information, and transfer it onto a form or separate document. It is the difficulties associated with employing these skills that characterize the literacy problem for sizable numbers of the young adult population. Very few young adults are estimated to be "illiterate" in the sense that they are unable to decode print or comprehend simple textual materials.

To help interpret the literacy scales, information-processing analyses were undertaken to identify the underlying characteristics contributing to task difficulty. For example, the 200 level on the prose scale is characterized by matching a single feature from a question to text material and by producing text using personal background information. Tasks characterizing the 200 level on the document scale also require matching a single feature when no competing information in the document serves to distract the reader or provide a possible correct answer. A slightly more difficult task characterizes the lowest level on the quantitative scale. This task requires the reader to apply simple addition to information given.

Tasks at the more moderate levels of 275 to 325 on each of the scales engage the reader in relatively complex information-processing demands. For example, on the prose scale, such tasks require matching information on the basis of more than one feature, generalizing a familiar theme from text repeating a single idea, and interpreting materials such as a warranty. On the document scale, this range of difficulty is characterized by matching information on the basis of two or three features using graphic or tabular materials. This range of difficulty on the quantitative scale is characterized by tasks that require the reader to transfer and enter appropriate numerical information in combination with carrying out an arithmetic operation.

Increasingly more demanding tasks characterize higher levels on the literacy proficiency scales. On the prose scale, such tasks require matching information from complex and lengthy texts, generating a theme from a single unfamiliar metaphor, and interpreting the difference between two related statements. Tasks characteristic of the higher levels of the document scale involve matching information on as many as six features using a schedule that provides numerous pieces of information serving as distractors. On the quantitative scale, the more difficult tasks involve applying more than one numerical operation in appropriate sequence on the basis of information that is frequently embedded in printed materials.

These analyses, combined with the finding that on each scale a significant proportion of young adults (approximately 40%) demonstrate proficiencies ranging between the 275 and 325 levels, suggest that the literacy problem for this population reflects restricted information-processing skills and strategies. As a consequence, these findings raise the question of whether young adults with such skill levels will qualify for or benefit from postsecondary education and training programs that some argue will be a requirement for many of the managerial, professional, and technical jobs that are becoming available as we move from a manufacturing to a service-sector economy.

- To the extent that the skills identified in this literacy study are important for full participation in our society, the results from this assessment raise questions about whether we should seek better ways to teach the current curriculum or whether we need to reconsider both what is taught and how we teach it.

Adult programs aimed at developing literacy skills and strategies are frequently based on elementary school reading comprehension models that, for the most part, are restricted to the use of narrative text. Implicit in such models is the assumption that these skills will transfer to tasks involving a wide range of different types of printed material. Results from this and other studies suggest that placing primary emphasis on a single aspect of literacy may not lead to the acquisition of the complex information-processing skills and strategies needed to successfully cope with the broad array of tasks adults face at work, at home, and in their communities.

Other adult literacy programs that focus on the acquisition of skills associated with discrete tasks, such as filling out a job application form or using a bus schedule, may have limited impact for the individual. This is because, while literacy is not a single skill suited to all types of texts, neither is it an infinite number of isolated skills each associated with a given type of text or document. Rather, as this assessment shows, there may well be an ordered set of information-processing skills and strategies that are called into play to accomplish the range of tasks represented in the various aspects of literacy as defined here.

- This study reveals that the small percentage of young adults who are among the least literate in America also tend to be lower in performance on oral-language tasks, suggesting a more general problem than simply an inability to use printed information.

A small proportion (1%) of the English-speaking population were judged to have such limited literacy skills that these individuals would have been unduly frustrated or embarrassed by the requirements of the simulation tasks. Oral-language tasks were developed and administered to this group in an attempt to address the question of whether or not individuals who do not perform basic reading and writing tasks are able to function effectively using spoken language. For comparative purposes, the oral-language tasks were also administered to a random sample of individuals who responded to the simulation tasks.

Although at least 40% of the group with extremely limited literacy skills provided adequate or better responses to each of the oral tasks, on seven of the ten tasks these individuals with severely limited literacy skills were significantly outperformed by their peers who responded to the simulation tasks. These results suggest that for a small but important segment of the English-speaking young adult population, there appears to be a general problem with language that is not limited solely to the use of printed materials. Thus, the data seem to call into question the view that "illiterate" adults have strong oral-language skills which, when combined with acquiring basic decoding skills will allow them to easily cross the threshold of print.

If the results had been otherwise and the group with limited literacy skills had demonstrated powerful oral-language skills, we might be optimistic and expect brief periods of intervention, building on oral-language proficiency, to significantly improve the literacy skills of our least literate adults. The data from this assessment, however, lead one to question whether short-term programs are a viable solution to the "illiteracy' problem.

- Becoming fully literate in a technologically advanced society is a lifelong pursuit, as is sustaining health. Both are complex and depend upon a number of factors. So, just as there is no single action on step that, if taken, will insure the physical health of every individual, there is no single action that, if taken, will insure that every individual will become fully literate.

Analyses show that home variables -- e.g., the availability of newspapers, magazines, books, and so forth in the home; parental education and occupation; ethnicity; and, age of learning English -- significantly relate to education variables such as the choice of high school curriculum and young adults' levels of educational attainment. These education variables, in turn, have a direct influence on reported literacy practices -- or, the current reading and use of newspapers, magazines, books, and brief documents. In combination, these home, education, and practice variables help to increase our understanding of differences in literacy proficiencies.

The relational analyses in Chapter VII suggest that while effective intervention programs should and can be developed and implemented at any age, the most promising strategies are likely to be those that take into account the intergenerational aspects of literacy proficiencies -- parental education, economic situation, and early home experiences are all likely to affect the individual's system of values and knowledge. These value and knowledge systems can be expected to have cumulative and lasting effects on interests, motivations and aspirations, and ultimately on literacy practices and proficiencies. Thus strategies implemented to increase literacy proficiencies may serve not only the existing population of young adults who are or may become parents, but may also serve to improve opportunities for future generations of children.

CHAPTER I

INTRODUCTION

> The often-heard charge, "Johnny can't read," is a little like saying that "Johnny can't cook." Johnny may be able to read the directions for constructing a radio kit, but not a Henry James novel, just as Johnny may be able to fry an egg but not cook Peking duck. In discussing reading in the schools, we must recognize that reading involves as wide a range of different types of text as there are different types of food. And, to imply, as does the slogan, "Johnny can't read," that reading is a single skill suited to all types of texts does not do justice to the range of reading types (p. 115).
>
> Beach and Appleman in Becoming Readers in a Complex Society, 1984 (p. 115)

This chapter is intended to provide the rationale for conducting a study of literacy proficiencies of young adults aged 21- to 25-years. The purpose and conceptual framework underlying the present study are set against a brief discussion of prior efforts in this area. In addition, major components of the assessment are described.

Background

Reading and writing skills provide people with an efficient means for accomplishing many tasks, whether they are associated with performing on the job or managing a household. These skills also enable individuals to learn new skills, to acquire information about current events and consumer affairs, and to improve the quality of their lives. Most importantly, literacy skills are basic to self-directed, lifelong learning. Learning skills are particularly important in a technologically advancing society where new forms of written documents are emerging, new strategies for coping with them are expected, and jobs and job requirements are changing rapidly.

Despite the dramatic increases in spending for education in recent years, concern has grown among educators, employers, and citizens over the ability of high school graduates to find, hold, and achieve in a job. These concerns arise for several reasons. For one thing, it is widely held that large numbers of secondary school students leave high school lacking basic skills. According to one recent report (NAEP, 1976), 12.6% of in-school 17-year olds are "functionally illiterate." Among Black 17-year olds, these rates are estimated to approach 42%. In addition, whatever the appropriate interpretation, standardized test results indicate that between 15% and 30% of 12th graders read below the ninth grade level (Fisher, 1978). In 1980 the Armed Services Vocational Aptitude Battery was administered to a nationally representative sample of 18- to 23-year olds (Office of the Assistant Secretary of Defense, 1982), and the median reading score for this national sample was reported at a 9.6 grade level. More than 4.5 million people, or 18% of this age group, were estimated to have reading scores below the 7th grade level. Compounding this problem of low achievement and "functional illiteracy" is the number of students leaving high school before graduation. More than 800,000 students are estimated to drop out each year with Blacks and Hispanics having significantly higher rates than Whites (Statistical Abstract of the United States, 1983).

Concerns over apparent skill deficiencies come at a time when the nature of work is changing. The continued shift in our society from manufacturing to an information/service job market, combined with increased foreign competition and accelerating technological change, has made literacy skills increasingly important for more workers. While the Bureau of Labor Statistics (1982) estimates that there will be large numbers of low skill jobs in the areas of health, custodial, and labor, those individuals wishing to escape from the low wages and intermittent unemployment associated with these occupations will need additional literacy skills.

Despite the fact that business and industry annually expend funds on education and training that approach those spent annually by our nation's universities and other four-year colleges (Eurich, 1985), economist Ginzberg (1980) points out that education and training not available at work are now required for placement in most technical, managerial, and professional service-sector jobs. Sum, Harrington, and Goedicke (1986) cite U.S. Bureau of Labor Statistics as projecting that over the next decade nearly 40% of the net new jobs generated by the American economy will be in the executive, managerial, professional, and technical occupations. Mikulecky (1982), in studying a variety of occupations, reported that over 80% of the literacy tasks he observed required workers to go beyond literal level skills. In fact, problem solving, use of judgment, and analysis of situations were reported to be more common requirements on the job than in schools. The National Academy of Science and Engineering and the Institute of Medicine (1984), in their joint report, said that "the continual evolution of work functions will require that workers master new knowledge and new skills throughout their working lives. The ability to learn will be the essential hallmark of the successful employee."

Moreover, demographic shifts will produce significant changes in both the number and make-up of the groups expected to enter the job market over the next 20 years. In 1980, there were an estimated 30.3 million 18- to 24-year olds who comprised the primary entrants into the labor market. By 1990 it is projected that this number will shrink to approximately 25.8

million. While the total of new labor force entrants in this age range will decline, minorities will comprise a greater proportion of all entry level workers (National Council on Employment Policy, 1984).

Within this economic and social context, President Reagan announced on September 7, 1983, that the federal government was joining with other public and private groups in a nationwide Adult Literacy Initiative. Against this background, the National Assessment of Educational Progress (NAEP) received funding to conduct a literacy assessment of young adults.

NAEP's decision to focus its attention on our country's 21 million young adults aged 21 to 25 recognizes the importance of this group since they represent a significant proportion of the nation's work force and, after teenagers, they comprise the highest proportion of unemployed. Also, they are at a point in life where they must secure a place in the employment world -- even harder to do for those ill prepared for a technologically advancing society.

NAEP's sixteen years of experience in conducting educational assessments provide a useful background for conducting the Young Adult Literacy Assessment. Its data bank from previous assessments allows comparison of this new age cohort with the in-school 17-year old population that has been assessed regularly. Further, the Young Adult Literacy Assessment returns NAEP to an important part of its original mandate, viz., the collection of data about young adults. Information obtained from this assessment can be used to establish a baseline from which trends are plotted over time.

Purpose

In the Spring of 1985, NAEP began screening some 40,000 households in an effort to assess 3,600 young adults aged 21 to 25. An oversampling of Blacks and Hispanics at twice their normal rate permitted reliable analyses of the performance of these groups. The purpose of the assessment was to collect data that would enable us to better understand the nature and extent of literacy problems facing America's young adults. At issue was how to define and assess literacy within this diverse population.

In order to respond to the various points of view, interests, and priorities confronting educators and policy planners, NAEP's assessment goals are developed through a consensus process involving experts in the field representing various points of view throughout the nation. For the Young Adult Literacy Assessment, expertise was drawn from persons in government, business, industry, education, and national defense. A series of four panel meetings as well as outside reviews conducted between April and October 1984, resulted in the definition of literacy and assessment plan that is presented here.

Defining Literacy

Historians have focused on two criteria as indicators of literacy rates in America before 1900: The first are counts of signatures taken from legal documents such as wills, marriage licenses, and deeds. The other is based on Census surveys beginning around 1840 in which people were simply asked whether they could read or write. After the Civil War, the focus was on tracking crude literacy rates among the emancipated Black Americans and among the growing number of European immigrants (Stedman & Kaestle, 1986). At that point in our history, as the Industrial Revolution was well under way and as compulsory schooling was becoming a major concern, it made sense to ask "What is the number of illiterate people in America?" because there were large numbers of individuals who had not reached even these most simple criteria.

As formal education became an integral part of our society and we became more literate, more refined indices of literacy were developed; e.g., years of education completed, standard scores, and reading-grade level scores. Through the use of these indices, the term "literacy" has implied the acquisition of intellectual skills associated with basic competencies in reading and writing and has been defined in terms of various educational measures. However, these measures came under criticism because they do not provide specific information about the kinds of competencies that given levels of literacy imply (see Kirsch & Guthrie, 1978 for further discussion). Perhaps more important was the recognition that literacy relates not to some arbitrary level of performance for the purpose of categorizing people into "illiterate" and "functionally illiterate" but to what people can do and how these skills relate to a host of social needs. As Carroll and Chall (1975, p. 6) note, "literacy covers a wide spectrum of capabilities -- all the way from, say, being able to decipher a want ad in a newspaper to being able to enjoy a novel by Thomas Mann or read a scientific treatise with understanding." Similarly, Gray (1956, p. 24) investigated the requirements for functioning effectively in society and characterized literacy as the skills needed "to engage in those reading and writing activities normally expected of all literate members of a community." Thus, "the multifaceted nature of literacy has often been glossed over through the use of such composite scores as standard scores and grade level equivalents" (Nafziger, Thompson, Hiscox, Owen, 1975, p. 15).

Recognizing the multifaceted nature of literacy led to efforts to identify and measure literacy-related tasks that adults in this country should be able to perform. As such, literacy implies more than just reading and writing. It implies the application of these skills toward socially appropriate ends. During the 1970's, national performance surveys such as those conducted by Louis Harris & Associates (1970), Murphy (1973), and the National Assessment of Educational Progress (1972, 1976) attempted to go beyond school-related reading tasks by including a wide range of materials people are likely to engage in at work, at home, or while traveling and shopping. Representing the most publicized of these is the Adult Performance Level Project (APL) (Northcutt, 1975). The APL project measured in addition to basic reading and writing skills, computation, problem solving, and interpersonal skills as they interact in the areas of occupational knowledge, consumer economics, health, and law.

Those who support these approaches to measuring "literacy" and "functional literacy" claim that these surveys represent a significant improvement over traditional reading measures in that they more directly assess reading behaviors assumed important for adequate functioning in today's society. Upon close inspection, however, these surveys are found to share some of the same assumptions and limitations as the more traditional measures of reading achievement. Common to both standardized tests and the national surveys, literacy has been treated as a fixed inventory of skills that can be measured by a single test, the results of which are seen as being universally applicable to a wide range of contexts. In this framework, literacy is treated as an ability that lies along a single continuum with scores indicating the various amounts of the trait an individual possesses. Moreover, a single point is selected below which people are classified as either "illiterate" or "functionally illiterate."

In contrast, scholars from several disciplines have illustrated the importance of recognizing the social basis for literacy (Graff, 1979; Heath, 1980; Scribner & Cole, 1981). Researchers studying literacy within particular contexts have noted that different cultures and groups may value different kinds of literacy practices (Heath, 1980; Sticht, 1975; Szwed, 1981). Heath, for example, found that uses for reading could be described in terms of: instrumental, social interactional, news-related, memory supportive, substitutes for oral messages, provision of a permanent record, and personal confirmation. The fact that people read different materials for different purposes implies a range of competencies that may not be well captured by a single point on a single scale.

It was from this perspective that NAEP assessed the literacy skills of America's young adults. The deliberations of the expert panels led to the drafting of the definition of literacy adopted.

Literacy as defined in this assessment is: "Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential."

In the intensive discussions among panel participants, several concerns surfaced that led to the drafting of this definition and the design for the assessment plan. Foremost among these was the conception of literacy not simply as a set of isolated skills associated with reading and writing, but more importantly as the application of those skills for specific purposes in specific contexts.

When literacy is studied in varying contexts, diversity becomes its hallmark. First, people engage in literacy behaviors for a variety of uses or purposes (Cook-Gumperz and Gumperz, 1981; Heath, 1980; Mikulecky, 1982; Sticht, 1978). These uses may vary across contexts, such as school, work, and community (Heath 1980; Venezky 1983), and among people within the same context (Kirsch & Guthrie, 1984a). This variation in use leads to an interaction with a broad range of materials that have qualitatively different linguistic forms (Diehl, 1980; Jacob, 1982; Miller, 1982). In some cases, these different types of literacy tasks have been associated with different cognitive strategies or reading behaviors (Crandall, 1981; Kirsch & Guthrie, 1984b; Scribner & Cole, 1981; Sticht, 1978, 1982).

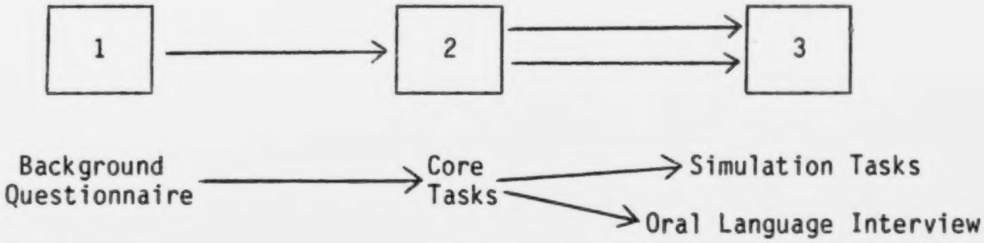
Given the complexity and diversity among literacy tasks, there was consensus among panel participants that individuals cannot easily be categorized as either "literate" or "illiterate." There is no single measure or specific point on a single scale that separates the "literate" from the "illiterate." Literacy can no longer be defined simply as the ability to sign one's name, completion of a particular year of schooling, or attainment of a specified reading grade level. Within our society, the resulting wide array of activities is likely to require different types of literacy for successful performance.

Because of the diversity of literacy demands people encounter at home, work, and school, a major goal of this assessment was to profile the literacy skills among young adults -- those skills that many respondents have acquired and those skills that many lack. Thus, literacy was conceptualized as a set of contextualized processes or practices rather than as a standard.

Although this survey of literacy was necessarily anchored in the assessment of reading and writing, in reality, literacy skills are seldom used in isolation. Rather, they are frequently used in a broader context of processing information. Speaking, listening, and basic mathematics were judged to be sufficiently integrated with the use of reading and writing in real-life contexts to require some attention in the assessment. Also, further recognition was given to the social bases of literacy through the collection of extensive background information. Together, these concerns formed the framework that was used to develop the assessment plan as well as specific assessment tasks.

Assessment Overview

The model for the adult literacy assessment was based on the recognition that literacy is inseparable from the social contexts in which it occurs. To gain a better and deeper understanding of the condition of literacy among young adults in our society, it followed that NAEP could not assess these skills independent of background and environmental variables. As a result, the following operational plan for the assessment called for an unusually broad and varied range of activities that together provided a rich data base for better addressing literacy issues confronting American society. These activities consisted of four components occurring in three phases.



In the first phase of the assessment, interviewers collected extensive background information from each respondent. For organizational purposes this information is grouped into several categories consisting of: demographic characteristics; literacy and education; literacy and work; literacy and home/community; and, reading practices. For example, information was obtained about the kind of environment the respondent grew up in, his or her early language experiences, education and training received, occupational status and aspirations, current reading and writing practices, and involvement in the community.

The second phase involved the measurement of "core" skills. This set of tasks served two important functions. One function was to map the changing definitions of literacy. Historians have noted that as our society expanded so did our definitions and standards for literacy. As Resnick and Resnick (1977) point out, literacy in its earliest form consisted of little more than signing one's name. It was not until much later that fluent oral reading became important and not until this century that reading to gain information was given primary emphasis. To reflect these changing definitions, respondents in NAEP's young adult assessment were asked to demonstrate their skill in signing their name, reading a simple passage aloud, answering literal questions after reading a short passage, and responding to several "practical" tasks. This latter practical set included tasks involving a driver's license, a medicine label, traffic and street signs, and a notice about a trip. As a second function, the core was designed to guide selection of respondents into the third phase of the assessment. Respondents who encountered considerable difficulty in completing the core tasks and who, therefore, would probably be frustrated by the array of simulation tasks, were asked to respond to an oral-language interview.

The oral language interview was administered both to persons who did not perform well on the "core" tasks and to a random sample of those who did. The oral language interview was designed to determine the effectiveness of these selected respondents in using spoken English. Examples of the tasks include having respondents describe what they like to do in their spare time, construct a story from a series of pictures, and give the interviewer directions on how to get to a grocery store from the respondent's home.

The remaining and major component of the assessment consisted of a broad range of literacy tasks that were used to profile the strengths and weaknesses of this population. In addition to answering some multiple-choice questions from NAEP's 1983-84 reading assessment, respondents were asked to perform reading, writing, speaking, and listening tasks that simulate behavior across a range of situations. For example, using a four-page newspaper that contained articles reproduced as they appeared in national newspapers, adults were asked to summarize in writing arguments from an editorial-page column, to locate specific information in a news story, to explain orally what they had read, and to look up information in a television listing or on a classified page.

Respondents also used the index of a world almanac to locate and extract information of various kinds. Other simulation tasks included: looking at a credit card bill and writing a letter explaining that an error had been made; writing a short interpretation of a poem; filling out a job application; making entries in a checkbook; selecting information from a catalogue to complete an order form; using airline information to select flights for people who must travel from different cities to attend a conference; and, reading and interpreting unfamiliar prose.

In total, this set of literacy tasks was designed to assess respondents' competencies in recognizing, acquiring, organizing, interpreting, and applying information that involves the use of various types of printed materials. An attempt was made to assess a range of cognitive performance and not to focus on, for example, a minimum level of competence. Operationally, a task was seen as comprising two elements: the material or linguistic form in which information is presented and the use or purpose for which an individual interacts with the material. It has been argued that this interaction between use and material determines the processing demands required for successful performance (Kirsch and Guthrie, 1980; Pearson and Johnson, 1978).

Overall, the NAEP Young Adult Literacy Assessment was designed to provide a rich data base for addressing such questions as:

- What is the nature and the extent of literacy proficiencies within this population?
- How does the performance of young adults compare with an in-school population?
- What are the background characteristics of the young adult population?
- How are selected background characteristics related to literacy proficiency skills?
- What are the relationships among oral language skills and performance on the literacy tasks?

CHAPTER II

INSTRUMENTATION AND METHODOLOGY

This chapter describes the instrumentation and methodology for NAEP's literacy assessment of young adults. In addition to providing an overview of the instrumentation -- the background and attitude survey, the simulation tasks, and the oral language interview -- this chapter focuses on:

- the assessment design
- the data collection activities
- the scoring and entry of data
- the scaling of the simulation tasks

Instrumentation

The Young Adult Literacy Assessment has from its inception emphasized the importance of background information as well as performance measures. This importance is demonstrated by the fact that the background and attitude questionnaire represents 30 of the 90 minutes allotted for data collection. The remaining 60 minutes was allocated to the measurement of specific literacy skills representative of tasks frequently encountered in various contexts. In addition, an oral language interview was developed to assess skills in this area and to examine the relationships among literacy skills in using printed materials and oral language skills.

Background and Attitude Survey

The questions developed for this survey serve not only to characterize the young adult population in terms of demographics, but also to provide a deeper understanding of the factors that are related to the observed distribution of literacy skills in this population. For organizational purposes, the survey questions are summarized here around issues that have received some attention in the research literature. It is likely that this background information will have implications for future educational planning and decision making.

Background characteristics. The approximately 21 million young adults between the ages of 21 and 25 represent a diverse mosaic of peoples and cultures. Any attempt to understand how literacy skills are distributed within this population must take into account the variance that exists in relation to race/ethnicity, socioeconomic status, home environment, and so forth. In addition, this information is crucial to our understanding of how differences in demographic characteristics relate to educational attainment, literacy skills, job status, and literacy practices. Thus questions dealt with the following:

Family background

- where parents were born
- age of parents
- parental education
- parental occupation
- home environment -- language(s) spoken/read, availability of reading materials, size of household

Respondent characteristics

- when and where born
- race/ethnicity
- size of current household
- income level
- occupation and employment status

Literacy and education. Several published reports have focused on the diminished abilities of high school graduates and, to a lesser extent on the plight of dropouts and "pushed-out graduates." While this survey did not attempt to determine the effectiveness of literacy instruction, respondents were asked about the amount and kind of education/training received as well as perceived adequacy and barriers encountered:

Educational attainment

- grade completed and educational aspirations
- education received in native country
- types and duration of training received
- reasons for not completing high school
- participation in and completion of GED
- type of secondary school curriculum

Educational barriers

- diagnosed conditions that may have interfered with learning
- English language skills

Literacy and work. Persons entering the work force directly from high school need many of the same skills and knowledge as those going on to college. Although some entry level jobs may not require higher level competencies, business and industry leaders emphasize that without such skills employees will not be able to move ahead and gain promotion. Thus the following concerns were addressed:

- whether reading and writing were required for work
- perceived adequacy of current literacy skills for work
- utility of literacy skills for job advancement
- expectations for obtaining further literacy training
- expectations for who will fund training

Literacy and home/community. It is widely recognized that people need to be able to read and write to accomplish important tasks not only for school and work but in the home and community as well. Literacy skills are useful in maintaining a household and participating in society as an active and responsible citizen. Questions were asked that related to:

- free time activities
- participation in clubs and organizations
- participation in national, state, and local elections
- provision/receipt of assistance with literacy tasks

Literacy practices. Previous studies have focused either on literacy skills or reading habits. This assessment includes questions about respondents current literacy activities as well as assessing literacy proficiencies, thus allowing the linking of these two important aspects of literacy:

- topics and content read in newspapers, magazines, books, and brief documents
- frequency and time associated with reading various materials
- reading activities associated with work, school, or leisure time

Simulation Tasks

Organizing framework for task development. The organizing framework that evolved for task development was a multidimensional approach to literacy. A task was based upon the printed material read and the use or purpose which the reader brings to the material. Material refers to the linguistic form in which the information is displayed. Twelve such categories were included: sign/label, directions, memo/letter, form, table, graph, prose, index/reference, notice, schematic or diagram, advertisement, and bill/invoice.

Use refers to why the individuals engage in the task, i.e., the type of information they need or are seeking. This is believed to influence both a person's strategy and cognitive operation in completing the task. Five categories of use, reflecting various levels of processing, were included: knowledge, evaluation, specific information, social interaction, and application.

These were operationally defined in this study as follows:

- Knowledge: reading to integrate information, to remember sets of facts for later use, or to go beyond information given.
- Evaluation: compare and contrast points of view; use printed information to make a reasoned judgment.
- Specific Information: locating a specific fact to satisfy a particular need (e.g., looking up a fact in a reference book).
- Social Interaction: organizing and sequencing information to communicate to another person or group (e.g., prepare a memo, write a letter, orally explain something that is read).
- Application: following oral/written instructions to construct, make, or repair something; doing simple numerical calculations based on printed information; providing simple facts such as is required in the completion of forms.

The materials and uses defined above form the axes of the matrix in Figure 2.1. The Xs indicate cells for which literacy tasks were included in the assessment. It should be recognized that while one could develop tasks to fill each cell of the matrix, many of the tasks that result would not be representative of tasks individuals frequently encounter. For example, one does not typically read a set of directions for the purpose of evaluation and one rarely reads a bill for the purpose of social interaction.

Figure 2.1

Matrix of Materials and Uses Indicating
Cells for Adult Literacy Tasks

Material	Use				
	Knowledge	Evaluation	Specific Information	Social Interaction	Application
Sign/Label			X		X
Directions					X
Memo/Letter				X	
Form		X	X		X
Table		X	X	X	X
Graph		X	X		
Prose	X	X	X	X	
Index/Reference			X		
Notice		X	X		X
Schematic			X		X
Ad			X		X
Bills			X		

In developing tasks for inclusion in the assessment, primary emphasis was placed on representing the broad range of literacy behaviors people frequently encounter in occupational, social, and educational settings. To assist in determining the nature of such tasks, lists of current objectives in competency-based adult programs, existing literacy measures, and studies of literacy in various contexts were reviewed. Further, it was felt that simulations of the skills in context rather than traditional multiple-choice questions would provide a more ecologically valid and useful assessment of literacy competencies.

Efforts were undertaken to create assessment materials that would address these concerns. For example, NAEP printed a 4-page newspaper containing a selection of articles that had appeared in national newspapers. Respondents were asked to summarize arguments from an editorial, to locate specific information in a news story, to explain orally what they read, and to look up information in a TV listing or a classified page.

Respondents were also provided with a World Almanac and asked to use the index and the text to find and extract various kinds of information. Another task involved looking at a credit card bill and writing a letter explaining that an error in billing had been made. The respondents were also asked to write a short interpretation of a poem, to fill out a job application, to use a check ledger to enter and compute a running balance, to use information from a catalogue to complete an order form, to use information to select flights for people arriving from different cities to attend a conference, to read and understand stories, and much more.

In addition to the simulation tasks developed for the adult assessment, items from two previous surveys were included to allow comparisons across groups and time. It was expected that the most significant comparisons would involve linking the performance of young adults to that of in-school 17-year olds surveyed by NAEP in their 1983-84 reading assessment. A total of 22 NAEP items representing both prose comprehension and study skills were included. It should be noted, however, that only the 12 prose comprehension items provide a basis for linking young adults to the NAEP Reading Proficiency Scale (NAEP, 1985). In addition, the young adult assessment included ten tasks selected from among the item pool of the Adult Functional Reading Survey (Murphy, 1973) funded through the Right to Read program.

Organizing tasks into blocks. From a larger pool of tasks developed for the assessment, 105 scorable tasks were selected and organized into seven assessment blocks. Each block was designed to require approximately 17 minutes of administration time and contained from 10 to 15 simulation tasks. In addition, seven tasks were assembled into the "core." These core tasks were estimated to take from six to ten minutes for administration. Each booklet was comprised of the core and three blocks. Thus, it was anticipated that about one hour would be allocated to this phase of the assessment. On average, each respondent had the opportunity to attempt more than 40 tasks. Individual tasks were not timed and respondents were encouraged to attempt tasks in each of the blocks. In instances where respondents spent over 20 minutes on a given block, interviewers were instructed to ask them to move to the next block. Since most respondents attempted each task in each block, the allotted time did not appear to be a major issue.

With the exception of the exercises from the NAEP assessment, an attempt was made to place the simulation tasks into blocks balancing both materials and uses. The tasks within each block were not ordered with respect to difficulty so that if time became a factor for any given individual, she/he had an opportunity to respond to the broadest range of tasks. However, the

NAEP tasks were deliberately placed together to ensure that a sufficient number of respondents would attempt this set of exercises to allow appropriate linking to the NAEP reading scale.

Oral Language Interview

A unique aspect of the young adult assessment was the development and administration of an oral-language interview. The major goal of this interview was to address the question, "Are individuals who do not perform basic reading and writing tasks able to function effectively using spoken English?" In addition to assessing skills among the population demonstrating lack of basic literacy skills, the interview was used to address the question, "What is the range of oral skills among individuals who demonstrate various levels of literacy proficiency?"

A total of eight oral-language tasks were used in the young adult assessment. Topics were selected to reflect familiar, every-day situations so that responses to the tasks did not require advance preparation. For example, one task asked respondents to give directions to the interviewer on how to get from their home to a local grocery store.

All respondents were administered one of the eight oral-language tasks as part of the "core." The remaining seven tasks were administered to two subgroups in order to address the questions raised above. The first group consisted of those respondents who failed to answer correctly at least three out of the first seven core tasks. The second group included a random subsample of respondents who passed the core. All oral-language interviews were tape recorded in the field and returned to NAEP for professional scoring by the same eight individuals who scored the simulation tasks.

Given that this oral-language interview adds an important dimension to the young adult literacy study, the details of this phase of the assessment are described separately in chapter VIII. The procedures for administering and scoring these tasks along with results comparing the performance of the two groups are discussed in relation to selected background characteristics. The results are also related to estimated literacy proficiency.

The Assessment Design

The NAEP assessment of young adults was designed to examine both the nature and status of literacy among a nationally representative sample of individuals aged 21 to 25 years, inclusive. This section will address the techniques employed to extend the content coverage and representativeness of the assessment, the sampling plan, and the computation of respondent and population weights.

BIB Spiralling

Because only some 60 minutes of response time was allocated to the measurement of literacy skills, it was necessary to employ some form of item sampling procedure to ensure broad and representative coverage of content. A powerful variant of standard matrix sampling called balanced incomplete block (BIB) spiralling was used. As in standard matrix sampling, in BIB spiralling no respondent is administered all of the tasks in the assessment pool. However, unlike standard matrix sampling in which items or tasks are assembled into discrete booklets, BIB spiralling allows the estimation of relationships among all tasks in the pool through the unique linking of blocks. In this assessment, the total item pool was divided into seven blocks of tasks, with each block requiring about 17 minutes of administration time. Each respondent was administered one of seven booklets, each of which included the background questons, three of the blocks of tasks, and the core. The assignment of blocks to booklets was accomplished according to the following balanced incomplete block design:

Booklet	Core	Block		
1	C	1	2	4
2	C	2	3	5
3	C	3	4	6
4	C	4	5	7
5	C	5	6	1
6	C	6	7	2
7	C	7	1	3

In this design, the assignment of blocks of tasks to booklets has several important characteristics:

1) Each block appears with the same frequency -- in three of the seven booklets.
2) Positional effects are controlled for at the block level since each block appears once in each of the three possible positions.
3) Every pair of blocks appears together in exactly one booklet.

The spiralling part of the design cycles the booklets for administration such that each booklet is completed by a random sample of respondents. Table 2.1 shows the numbers of respondents completing each booklet and each block. As can be seen from this Table, this aspect of the design was effective.

One outcome of BIB spiralling is that every task is taken by a randomly equivalent subsample of the total sample of respondents (in this assessment, approximately 1,500 individuals responded to each task, not including the core which was attempted by all respondents). This insures that reliable estimates of performance of the population as a whole can be derived for any task. An additional benefit of this methodology is that every pair of tasks is taken by a representative subsample of the total sample (approximately 500 respondents) so that correlations between pairs of tasks can be estimated.

Table 2.1

Numbers of Persons Responding to each of the Seven Assessment Booklets and Blocks

Assessment Booklet	Block
1 = 520	1 = 1,497
2 = 526	2 = 1,546
3 = 502	3 = 1,502
4 = 513	4 = 1,535
5 = 503	5 = 1,542
6 = 500	6 = 1,505
7 = 474	7 = 1,487

The Sampling Plan

The target population for the Young Adult Literacy Assessment was the population of young adults in the continental United States who, at the time of the assessment (April through September, 1985), resided in private households (excluding group quarters) and who were between the ages of 21 and 25, inclusive. The goal of the sample design was to achieve a projectable sample of this target population and to oversample Blacks and Hispanics at approximately double their normal rate. A total of 38,400 housing units in 800 locations were screened for eligible respondents and a total 3,618 assessments of young adults were conducted.

Given the growing concern over school dropouts, the 38,400 households were also screened for out-of-school 17-year olds -- school dropouts born between October 1, 1967 and September 30, 1968. Of the 125 eligibles, a total of 105 assessments were completed. While these data are contained in the public use tape, the characteristics of the sample design and the small achieved sample size precludes the reliable estimation of useful weights for this population. As a result, the sample of out-of-school 17-year olds will not be discussed in this report.

The assessment of young adults used a five-stage sampling design. The selection stages were: 1) selection of the primary sampling units -- counties, groups of counties, or Metropolitan Statistical Areas (MSAs), 2) selection of secondary sampling units (roughly census tracts), 3) selection of "blocks" of contiguous housing units, 4) selection of housing units, and 5) selection of age-eligible respondents within housing units sampled. Details of each of the five stages are contained in Appendix A.

Computation and Use of Respondent Weights

As is the case in many large-scale sample surveys, this assessment had a complex sample design. Appropriate estimation of population characteristics must take into account disproportional representation of various subgroups in the sample. This was accomplished by assigning a weight to each respondent, such that the weights properly account for the sample design and also reflect the appropriate proportional representation of the various types of individuals in the population of 21- to 25-year olds, inclusive.

The goal of survey research is to provide estimates of various characteristics, both for the total population as well as for various subgroups of interest. In general, estimates of the total number who possess a given characteristic are obtained by summing the weights of all respondents who have that characteristic. For these population estimates to be useful and not misleading, it is important that these totals be "close" in some sense to the true population values. The ultimate respondent weights used for all analyses should satisfy this requirement. Details and considerations involving the weights used in the adult assessment are presented in Appendix A and under the heading, "The Achieved Sample," in the next section of this chapter.

Data Collection

Data collection activities were performed by Response Analysis Corporation (RAC) field staff between April and September, 1985. Approximately 500 interviewers, supervised by 47 area coordinators, conducted the assessments. The area coordinators reported to four area supervisors at RAC. The areas consisted of the U.S. Census divisions: Northeast, North Central, South, and West. This section of the report describes:

- selection and training of interviewers
- listing and screening of households
- selecting and assessing eligible respondents
- quality control activities
- achieved sample

Further details on the various activities discussed here can be found in RAC's technical report (Response Analysis Corporation, 1986).

Selection and Training of Interviewers

Each interviewer who was selected by RAC received and studied training materials (RAC, 1986) and conducted a practice interview. These interviews were reviewed by an area coordinator and/or by RAC staff.

Interviewers who were not highly experienced in interviewing procedures received additional training in probability sample procedures, general interviewing techniques, and the assessment instruments. This training was conducted in person by area coordinators and RAC supervisors in 12 regional training sessions. These interviewers also conducted a practice interview which was reviewed by their coordinator.

To further assure that correct procedures were being followed, RAC's coding/editing department reviewed all completed assessments. If a problem was found in an interviewer's work, the interviewer was contacted, and the correct procedure was reviewed.

The Listing Task

The first task of an interviewer after training was to create a list of 48 housing units within an assigned "block." The interviewer recorded the street address and a description of each housing unit, beginning at a specified location and following the systematic sequencing directions and detailed specifications contained in their instructions (RAC, 1986). The interviewer stopped listing when 48 housing units had been included. If the assigned "block" did not contain 48 housing units, the interviewer called RAC for further instructions. The completed listing form was sent to RAC and a copy was kept by the interviewer.

The Screening Task

Each of the 48 housing units listed in a particular location was screened to determine whether the household contained one or more eligible persons. At each household the interviewer attempted to conduct a short screening interview with a member of the household. The status of all screening calls was recorded onto a Housing Unit Record form (RAC, 1986).

The screening section of the Housing Unit Record form included structured questions that were designed to elicit the names of all persons between the ages of 21 to 25, inclusive, who usually lived in the household. Another series of questions was used to identify any out-of-school 17-year olds residing in the household. All eligible respondents were listed, and, in households which contained more than one eligible young adult, the interviewer used a selection table to randomly choose one young adult to be assessed.

The interviewer was instructed to make up to four callbacks to a given household in the event that there was no one at home to report on the eligibility status of the household. After the fourth attempt, the screening of the household was abandoned. This occurred in only 79 cases. Screening was not completed in an additional 275 cases for other reasons (see RAC, 1986, Table 3). Of the total of 38,400 assigned housing units, 2,416 were vacant and 430 were not housing units. Of the 35,554 non-vacant housing units, screenings were completed in 35,200, for a screener completion rate of 99%.

Selecting and Assessing Eligible Respondents

Selecting eligible respondents. The interviewer's next task was to select an eligible respondent in those households reporting the presence of at least one person between the ages of 21 and 25, inclusive. In households with only one eligible respondent, that individual was automatically selected for assessment. In those households having more than one eligible young adult, all eligibles were listed in a specified order, and the interviewer used a selection table to randomly choose one young adult for assessment. Four different versions of the selection table were designed and used, with these versions being rotated in each interviewer's assignment. The procedures were designed so that the interviewer would have no discretion in the selection of participants in the assessment. All eligible out-of-school 17-year olds were selected for the assessment regardless of how many there were and regardless of whether or not there was an eligible adult in the household.

Assessing an eligible respondent. The interviewer's final task was to attempt to complete an assessment with each selected respondent. An incentive of $15.00 was offered to each respondent for participating and completing the assessment. Of the 4,494 young adults who were selected for the assessment, interviews were completed with 3,618, for an assessment completion rate of 80.5%. Further details on the disposition of the sample are given in Tables 2 and 3 of RAC's Technical Report (1986). The assessment completion rate for out-of-school 17-year olds was 84% (105 assessments were completed from a total of 125 identified eligibles).

The first of the three phases of the assessment involved administration of the background and attitude questionnaire in English to 3,538 respondents. A Spanish-language version of the questionnaire was administered to the 80 people who chose not to communicate in English. Table 2.2 summarizes the number of respondents in the achieved sample.

Table 2.2

The Achieved 21- to 25-Year Old Sample

	N	Weighted N
English speaking who passed the core		
Total	3,474	20,720,464
Males	1,544	10,054,793
Females	1,930	10,665,671
Whites	1,997	16,018,109
Blacks	957	2,693,192
Hispanics	391	1,264,984
Other	129	744,179
English speaking who failed the core	64	224,799
Spanish speaking respondents	80	213,081

The second phase assessed "core" literacy skills. If a respondent correctly answered at least three of the core tasks correctly, the interviewer proceeded to administer a set of the simulation tasks. If a respondent failed to answer correctly at least three core tasks, the interviewer administered the oral-language interview. Oral language was assessed for 64 English-speaking individuals. For the 80 individuals who were administered the Spanish version of the background survey, the core tasks were offered first in English and then in Spanish. The English oral-language interview was then attempted, thus terminating the assessment. In addition, for control purposes, a sample of some 200 persons who attempted the simulation tasks also responded to the oral-language interview (RAC, 1986; page 10).

In many respects, the assessment was an unusual task for social research interviewers. For the most part, the interviewer acted as a neutral proctor -- both guiding the respondent through the assessment procedures and providing standardized instructions given in interviewer guides prepared for each of the seven assessment booklets. There was some initial concern that lay interviewers would be unable to gain respondents' cooperation for an assessment package that might be perceived as a "test." However, interviewers reported enjoying the survey and, given the high completion rate, respondents seemed willing to cooperate.

Quality Control

Verification of the quality of each interviewer's work was checked in the following manner:

- Each listing was examined to ensure that acceptable listing procedures were followed.
- Each completed interview was coded by type (adult, 17-year old, Spanish, and/or Oral), assessment version (booklets 1-7), and race/ethnicity of the respondent.

- Key questions or procedures from each phase of the assessment were checked for accuracy and completeness.

In addition to the procedures described above, the quality control plan called for verification of 25% of each interviewer's completed assessments. Respondents were telephoned and verification questions asked. Cases were considered invalid if answers to two or more items in the verification interview did not match corresponding answers in the background survey. Any interviewer who was responsible for an invalid assessment had 100% of his/her assessments verified. A total of 1,399 assessments were selected for verification: 1,180 were verified (32.7% of the total assessments); 211 assessments were not verified because respondents could not be reached by phone or mail; and, 8 were found to be invalid and were deleted from the sample. No attempts were made to verify negative responses to the question regarding the presence of age-eligible household members. A discussion of non-sampling error is provided in Appendix A and in RAC's Technical Report (1986) as well as in the following section of this chapter.

The Achieved Sample

The goal for the assessment was to achieve a projectable sample of 21- to 25-year olds living in private households in the contiguous United States, excluding group quarters, with oversampling of Black and Hispanic populations such that their representation in the achieved sample would be approximately double that found in the population at large.

When data from the March 1984 Current Population Survey (CPS) of the Bureau of the Census are cross-classified by age, residence, and race/ethnicity, the following percent distribution is obtained.

Hispanic	7.0%
Nonhispanic Black	13.2%
Nonhispanic Other (White)	79.8%
	100.0%

Comparison of the percent distribution for the unweighted achieved sample with the expected distribution given the CPS data reveal that both Hispanics and Nonhispanic Blacks are represented at twice their normal rates of occurrence.

	Twice CPS	Actual	Difference
Hispanic	14.0%	13.2%	-0.8
Nonhispanic Black	26.4	27.4%	+1.0
Nonhispanic Other (White)	59.6%	59.4%	-0.2

The unweighted distributions by race/ethnicity are comparable to those expected from the CPS file. Other variables such as age, sex, and region of the country do not match the CPS data as closely, but the observed differences are quite small and could easily result from the heavy oversampling of Blacks and Hispanics.

To adjust for effects that result from differential response rates and for approximations in the probabilities of selection, weights were adjusted by a procedure known as post-stratification (iterative proportional fitting) to known totals from the CPS. The margins that were adjusted were race, census division, sex, and age. In generating the marginal totals from the CPS, an attempt was made to filter the CPS data so that the totals reflected the assessment target population (specifically, persons in group quarters, not in the Continental United States, or not of the specified age range were removed).

The result of this post-stratification procedure is a final set of respondent weights in which the marginal totals agree with the CPS estimates. However, it should be noted that there is an important consequence of use of this procedure in this study. Prior to this adjustment, but including other adjustments, the sum of the sampling weights of the respondents was 12.3 million as compared with the CPS estimate of 21.1 million. This represents an underestimation of nearly 43%.

The underestimation of 43% in this study is cause for some concern. After careful study of the problem, it is our conclusion that this underestimation resulted primarily from several field procedures and thus represents non-sampling error. This conclusion was reached in conjunction with external consultants expert in the field of sampling. These procedures are presented and discussed, along with the implications of boosting the weights, in Appendix A and RAC's Technical Report (1986). A brief summary is given here.

In general, non-sampling error results from nonresponse and under-enumeration. The validity of projecting results from a sample of individuals to the total population depends on the characteristics of the missed people. While the precise characteristics of these under-enumerated people are unknown, we can reasonably argue that, at least for those demographic characteristics for which we have estimates, there does not appear to be any systematic bias in the achieved sample. This argument is based on two considerations.

First, the underenumeration appears to be largely the result of failure to identify eligibles within the selected households. During the screening of a household to determine its eligibility status, the nature of the study was never mentioned by the interviewer. The fact that a literacy assessment was not mentioned strongly suggests that the reason for this category of nonresponse was unrelated to the literacy skills of any unreported eligibles in the household.

Another category of nonresponse involves persons who were identified as eligibles but who refused to participate after being informed of the nature of the assessment. This group represents 13% of the total number of eligibles located. This nonresponse rate was roughly constant across ethnic categories and most regions of the country, although a poorer response rate was experienced in the Northeast. Again, it is reasonable to infer that refusal to participate was not primarily a function of the literacy skills of those refusing to participate.

Second, the estimated distribution from the achieved sample, using the sampling weights (before post-stratification), is closely comparable to the CPS values on a number of key demographic variables indicating that, for the variables available, there does not appear to be any systematic bias in the data. These variables include sex, age, race/ethnicity, census division, education, and personal income. For the most part, the differences in the relative frequencies between the achieved sample and the CPS sample are within the bounds to be expected given sampling variability. Thus in the opinion of the experts consulted, there is ample justification for boosting the achieved sample to reflect the total CPS estimates.

Finally, the relative differences among racial/ethnic groups discussed throughout this report seem to be closely comparable to those observed from other large-scale national surveys. That is, in general data from both High School and Beyond (Rock, Ekstrom, Goertz, and Pollack, 1985) and the National Longitudinal Study (Sum, Harrington, and Goerdicke, 1986) report that Black students underperform White students by roughly a full standard deviation with Hispanic students performing approximately midway between Whites and Blacks.

Scoring and Data Entry

Training of Scorers and Scorer Reliability

A scoring guide was developed for each of the open-ended simulation tasks (Adult Literacy Assessment User Guide, 1986). During a one-week period, eight individuals were trained by a supervisor to read and score the open-ended simulation tasks. The scoring guides were discussed and each trainee practiced on a preselected set of actual responses. The scores assigned were discussed by the group, resulting in some revisions to particular guidelines.

All open-ended tasks in the assessment were subject to a 20% reliability check involving a second reading by a second scorer. Scorer reliability was estimated on a weekly basis. Overall, the average percent agreement among the eight scorers for all open-ended literacy tasks was 96. However, reliabilities for individual tasks ranged from 86% to 100% (Table 2.3).

Data Entry, Editing, and Quality Control

An intelligent data entry system was designed to allow entry of background and cognitive task information as booklets were received from the field and professionally scored. The system was designed to accommodate the seven assessment booklets and the background survey such that a cathode ray tube (CRT) screen appeared that displayed appropriate formats or data descriptions for the corresponding assessment instrument.

A benefit of this data entry system is that it permitted on-line editing. The editing process involved automatic checks on the internal logic and consistency of the data. This system had the capacity to automatically check for nonexistent respondent identification numbers, out of range values, or inconsistent responses, and to signal to the operator when such an entry was being made.

Table 2.3

Percent Agreement for Each Professionally Scored Literacy Task

Block	Task Number	% Agree	Block	Task Number	% Agree
Core	8	91	5	4.4	98
Core	9.1	96	5	6	96
Core	9.2	93	5	7	97
1	12	91	6	1.1	98
2	11	99	6	1.2	99
2	12	99	6	1.3	99
2	13	99	6	1.4	98
2	15	98	6	2	92
3	1	98	6	3.1	100
3	2	98	6	3.2	100
3	3	98	6	3.3	97
3	4	95	6	3.4	97
3	5	96	6	3.5	98
3	6	86	6	3.6	98
3	7	99	6	4	99
3	8	97	6	5.1	96
3	9	98	6	5.2	97
3	10	99	6	5.3	96
3	11	99	6	6	97
3	12	91	7	1+2	93
3	13	99	7	3	97
4	1	99	7	4	97
4	7.1	95	7	5	99
4	7.2	94	7	6	99
4	7.3	94	7	7	98
4	7.4	95	7	8.1	98
4	8	93	7	8.2	98
4	10	96	7	9.1	100
5	1	96	7	9.2	97
5	3	91	7	9.3	97
5	4.1	98	7	9.4	99
5	4.2	96	7	11	88
5	4.3	95	7	12	98

All data were re-entered by a second key entry person. Any discrepancies between the first and second entries were resolved. In addition, a random set of booklets were selected to provide an additional check on the accuracy of transferring information from the booklets to the data file. Less than one-quarter of one percent of the entries were found to be in error in this latter sample.

Scaling of the Simulation Tasks

A major goal of this study was to estimate the levels of literacy proficiency for the young-adult population and for subpopulations of interest. To accomplish this goal, there needs to be as broad a range of content coverage as possible. In extending the range of content coverage, it is necessary to move to some form of item-sampling design. This is so because the entire set of tasks is too large to be administered to any single person. As a result, one is restricted to talking about distributions of performance on individual items or about mean performance across tasks responded to by different samples of individuals. In the former case the amount of information becomes unwieldy due to the large number of tasks; in the latter case one loses the ability to estimate any distributions. One defensible and interpretable means for aggregating information across sets of exercises such that summary statements about group distributions can be made is to apply some form of scaling procedure. The one adopted for this study is item response theory (Messick, Beaton, & Lord, 1985).

Item Response Theory

IRT is a mathematical model for the probability that a particular person will respond correctly to a particular task from a specified pool of tasks. This probability is given as a function of a single parameter characterizing the proficiency of that person, and one or more parameters characterizing the properties of the task. The particular IRT model employed in this assessment was the three-parameter logistic model. In this model, the task parameters include task discrimination, task difficulty, and guessing.

A pool of tasks over which performance is modeled, and the accompanying proficiency variable, is referred to as a "scale." Analyses within a scale are generally carried out in two steps: First, the parameters of the tasks are estimated; second, estimates of individuals' or groups' levels of proficiency are estimated with the item parameter estimates treated as known parameter values. A unidimensional IRT model such as the three-parameter logistic model assumes that performance on all of the tasks in a domain can, for the most part, be accounted for by a single underlying proficiency variable.

Item parameter estimation. The parameters for the subset of exercises used to link young adults to the NAEP reading scale were taken from the 1983-84 reading assessment. Their metric had been set so as to standardize the population defined by the union of the three grade/age samples (NAEP Technical Report, 1986).

Similar item calibration procedures described in detail in Appendix B were carried out for each of three literacy scales defined in chapter III. Using Mislevy's and Bock's (1982) BILOG program, the three-parameter model was fit to each task. Data from the entire sample of 3,618 respondents were used, although the numbers of responses to each task ranged from 1,400 to 1,600 since not every respondent was presented every task under the BIB spiralling design. Case weights were not employed in item calibration. Item parameter estimates and their associated standard errors are shown in Tables 1 through 4 in Appendix B.

In addition, a routine check of bias was undertaken. Residual plots were produced to examine the comparative operating characteristics of each task within gender and race/ethnicity subpopulations. Figures 2 and 3 in Appendix B present typical plots comparing subpopulations on the basis of gender and race/ethnicity, respectively. The smooth line in these figures represents the fitted three-parameter logistic item response curve. The symbols represent the particular subpopulations of interest. Any systematic and substantial departures from the fitted line would suggest that a particular task may not be operating similarly in the subpopulations. Tasks exhibiting serious departures, had they appeared, would have been eliminated from further analyses.

Proficiency estimation. In assessments, the purpose is to provide the most precise estimation of population distributions. This is in contrast to tests where the purpose is to make precise statements about individuals. In tests, large numbers of items are administered to each respondent to ensure that their proficiency can be estimated with precision, and several hours of testing time are frequently required. More efficient estimates of the distribution of proficiencies in a group of respondents can be obtained from item sampling designs such as BIB in which each sampled individual responds to a relatively small number of tasks.

The benefit derived from more efficient estimation of population distributions is offset by the inability to make precise statements about individuals. However, in such designs, while point estimates for individuals are not reliable enough to permit making decisions about the individual, one can use all of the available information from individual's task responses as well as background information in order to make population estimates. The procedures employed in accomplishing the above are defined in Appendix B.

Additional discussion of the procedures applied in estimating proficiencies as well as procedures required for analyses of the resulting data are provided in NAEP's Technical Report (1986). A study demonstrating that consistent population estimates do result from use of these procedures was undertaken with data from the College Board SAT (Beaton, Mislevy, Kaplan, & Sheehan, 1986).

CHAPTER III

DEFINING AND ANCHORING THE LITERACY SCALES

> Everything should be as simple as possible;
> but no simpler . . .
>
> --Albert Einstein

The focus of this chapter will be on conceptualizing and anchoring the literacy skills of America's 21- to 25-year olds. Major sections of this chapter will deal with:

- the dimensionality of literacy skills
- scaling the adult literacy tasks
- describing and anchoring the literacy scales

From the outset, NAEP's assessment of young adults was concerned with the complex processes of literacy rather than with literacy as a single standard. Thus, literacy was conceived of not simply as a set of isolated skills associated with reading and writing but as the application of those skills for specific purposes in specific contexts. The wide array of activities encountered in our society is likely to require different types of literacy skills for successful performance.

Given both the complexity and diversity of literacy tasks faced in social contexts, it is problematic to attempt to categorize individuals as either "literate" or "illiterate." From this perspective, no single scale or specific point on a single scale emerges to capture the variety of necessary literacy skills or to appropriately separate the "literate" from the "illiterate." Recognizing the broad diversity of literacy tasks encountered at home, at work, and at school, a major goal of this assessment was to profile the literacy skills of young adults aged 21 to 25 years.

It will be remembered from Chapter II that the point of origin for task development was the matrix of uses and materials. The interaction between use and material not only provides the operational definition of a literacy task but also determines the information-processing demands required for successful performance. Tasks representing the intersection of the linguistic form in which information is displayed (materials) and the type of information needed or sought (use) were developed and organized into blocks for administration.

Although we did not expect to find a separate dimension for each of the filled cells in Figure 2.1 (the number of items per cell was too small to allow this to occur), the approach to literacy task development guiding the study led us to anticipate more than a single dimension. Thus, we explored a number of plausible alternative organizing structures on an a priori basis before the data were available for analysis.

Dimensionality of Literacy Skills

Historically, there has been a marked tendency to describe literacy in terms of the ability to successfully perform a series of concrete tasks -- e.g., to complete an application for a driver's license, to comprehend the warning on a container of poison, and to appropriately interpret familiar street signs (Murphy, 1973). For the most part, success is summed across such diverse tasks and an arbitrary cutting point established (e.g., 75% correct) below which an individual is classified as "functionally illiterate" (NAEP, 1975). Such an approach, with its lack of an organizing principle and given the arbitrary cutpoint used, was dismissed for this study, since it would add nothing to our understanding of the processes of literacy. Moreover, this approach is in direct conflict with the theoretical framework of the current study.

Traditionally, too, literacy skills have been categorized into reading, writing, speaking, listening, and arithmetic or mathematics. It is not difficult to further combine the categories of reading and writing on the basis of similarity of the processes engaged, to combine speaking and listening as difficult and costly to assess, and to isolate math by default. However, such a classification does not take into account the growing body of research exploring the notion that the task performance is determined by what one is expected to do with the material provided as stimuli rather than by the mode of task presentation or response (Kirsch & Guthrie, 1984; Pearson & Johnson, 1978).

Work in the area of the context of literacy clearly provides one possible organizing concept for disparate literacy tasks. We have the familiar academic or school context (dealing primarily with prose) contrasted with nonschool or "everyday life" contexts. And, the nonschool contexts can be subdivided into work-related and home-related tasks. However, it is operationally difficult to separate tasks along these latter dimensions since the work and home categories are not mutually exclusive in terms of the literacy tasks engaged in.

Another organizing principle of considerable appeal would involve categorizing the literacy tasks in terms of the types of materials or formats in which they occur and to examine the associated types of purposes or uses both within and across materials. The appeal stems from a number of sources. For example, the concept of a matrix of materials by uses was instrumental in developing tasks for this study. In addition, there is a growing body of literature suggesting that different materials or formats are associated with different contexts and that a significant proportion of adult reading tasks in the context of work involves documents (Jacob, 1982; Kirsch & Guthrie, 1984;

Sticht, 1975) -- graphs, charts, forms, and the like -- rather than prose. Frequently, these documents are embedded in the contexts of home or work and community as contrasted with prose which is most frequently associated with school or academia. Moreover, different materials and formats are often associated with different purposes and these purposes are frequently associated with different reading strategies. This line of reasoning has lead to such distinctions as Sticht's (1975) "reading to do" and "reading to learn."

As another instance reflecting similar distinctions, NAEP (1972) came to aggregate reading exercises in terms of "themes" -- word meanings, visual aids, written directions, reference materials, significant facts, main ideas, inferences, and critical reading. The areas of reference materials and significant facts were among those in which young adults aged 26 to 35 performed better than did in-school 17-year olds, while, on the other hand, 17-year olds performed higher than young adults in inferences and critical reading. At age 17, girls consistently out performed boys in each theme area, but the picture is very different for young adults. For the older group, males out performed females in the areas of visual aids, significant facts, main ideas, and inferences. These NAEP results suggest the utility of a priori classifications that allow for the examination of differential performance for subgroups both within a single assessment and across age levels and time.

In the end, we reached a compromise among the various organizing concepts considered that we felt did not compromise the theoretical underpinnings of the NAEP young adult assessment and that reflects a number of salient notions from the literature. We hypothesized three scales: a prose literacy scale -- which was subsequently divided into two scales, one consisting of NAEP exercises and the other of simulation tasks -- a document literacy scale, and a quantitative literacy scale. In this way, we were able to take account of context in terms of school- and nonschool-related prose material; to acknowledge that the processes engaged in prose material are probably qualitatively different from those engaged in documents, such as graphs, charts, and schedules; and, to provide for a separate scale for quantitative skills. In addition, maintaining the NAEP exercises and the simulation tasks as separate prose scales also provides an opportunity to explore methodological differences between multiple-choice and open-ended response item types as well as to place the current 21- to 25-year olds on the NAEP reading proficiency scale.

The empirical data were also subjected to factor analysis to explore dimensionality. We hoped to find evidence in the empirical data to substantiate the three hypothesized literacy scales. The use of BIB spiralling allowed us to compute product-moment correlation coefficients among the total pool of 105 literacy tasks. The resulting correlation matrix, with squared multiple correlations inserted as communality estimates in the main diagonal, was factor analyzed by the method of principal axes, the mean squared multiple correlation was .92 (trace = 101.01). An examination of the latent roots revealed three sizable factors followed by several smaller factors (roots = 18.11, 2.89, 2.30, 2.00, 1.94, 1.87, 1.79, 1.68, 1.67, 1.58, . . .). Following the logic of Cattell's (1966) scree test, the breaks in the pattern of latent roots indicated at least three salient factors with the possibility of as many as five additional factors. Analysis of parallel random data reinforces the judgment that a three-factor solution is appropriate. However, for exploratory purposes, three separate analyses were conducted: in one analysis, eight factors were retained and rotated for interpretation; in another, five factors were retained, and, in the final analysis, three factors were retained for rotation and interpretation.

In each instance, the factors were rotated to orthogonal simple structure by the varimax procedure and to oblique simple structure by the DAPPER method (Tucker & Finkbeiner, 1981). Tasks loading highest on the first and largest factor seemed to rely heavily on prose comprehension, tasks loading highest on the second factor seemed to reflect skill in using documents, while those tasks loading highest on the third factor required the application of arithmetic operations. Following the argument of the preceding discussion of the a priori basis for scales in prose comprehension, document literacy, and quantitative literacy, we rejected use of analytic techniques forcing an orthogonal structure in the empirical data. We fully expected, for example, that performance on tasks requiring arithmetic operations in which the numerical information is deeply embedded in text material would be related not only to a factor representing quantitative literacy but also to a factor assessing prose comprehension. The DAPPER method was selected specifically to allow the complex literacy tasks to load on more than one factor. Indeed, many of the literacy tasks did so.

Interpretation of the five- and eight-factor solutions was much less clear. Although each revealed three major factors reflecting prose, documents, and quantitative operations, for the most part these rotations provide interesting clues for possible task modification and for future item development rather than clear-cut implications for scaling the current data. For example, the eight factor solution indicates that it may be possible for us to revise judiciously some existing tasks and to develop new tasks to explore additional dimensions of literacy in future studies. That is, there seems to be evidence that one could, if desired, devise new tasks (and possibly revise existing document and quantitative tasks) that could isolate a factor reflecting the importance of procedural knowledge as it applies, for example, to entering and using information in forms. Alternatively, one might prefer to restrict the impact of procedural knowledge by eliminating tasks that have a relatively strong relation to a minor factor which seems to reflect such procedural knowledge. Thus, the empirical analysis not only tends to support the structure selected on an a priori basis but also provides a basis for future literacy task development. The aspects of literacy identified for this assessment through both the a priori judgments and the empirical procedures applied are not necessarily the only salient dimensions of literacy per se. These dimensions are likely to shift as a function of different definitions and perspectives on literacy. Some, for example, have emphasized the role of knowledge in their use of such terms as "cultural literacy," "computer literacy," and "scientific literacy."

Scaling the Adult Literacy Tasks

The use of a balanced incomplete block (BIB) design, or any other form of item sampling, raises particular issues of comparability of results for individuals. Primarily this is a function of the fact that respondents take different sets of items. While average percents correct are available for each of the 105 tasks in the assessment, summary statements about particular sets of tasks are needed for effectively communicating major results. The problem has been addressed in this assessment through the use of item response theory (IRT) psychometric models (Lord, 1980).

Item response theory (IRT) defines the probability that a given individual will respond correctly to a specific task from a specified domain of tasks. This probability can be stated as a mathematical function having one parameter that is an estimate of the proficiency of the individual and one to three parameters characterizing each item. The item parameters reflect difficulty level, discriminating power, and likelihood of guessing. The specific IRT model used in this assessment of young adults was the three-parameter logistic model (Appendix B).

The domain of items over which performance was modeled and the associated proficiency variable is referred to as a "scale." Analyses within a particular scale were carried out in two steps: First, the parameters associated with each task or exercise were estimated. Second, levels of proficiency were estimated for individuals or groups with the three item parameter estimates treated as known values. Detailed descriptions of procedures and formulas used in this study are given in Appendix B.

A unidimensional IRT model like the three-parameter logistic model used in this study assumes that performance on all the items in a specified domain can be accounted for, for the most part, by a single underlying proficiency variable. As described earlier, the conceptual framework for NAEP's assessment of young adults suggests the use of multiple scales, allowing for the possibility of different patterns of proficiency on different sets of literacy tasks. Following this conceptual framework, literacy tasks were classified on one of the following four scales.

Scale	Description	Number of Items
1	NAEP Reading Proficiency	12
2	Prose Literacy	15
3	Document Literacy	63
4	Quantitative Literacy	15

Describing and Anchoring the Scales

Two major benefits resulting from statistically derived scales are: they enhance the comparability of results across groups, age, and time, and they provide a basis for relating background and attitude variables to performance (Messick, Beaton, & Lord, 1983). But however useful such statistically derived scales may be, a need remains to develop supplementary information that is primarily aimed at guiding their interpretation.

The succeeding three sectons of this chapter -- Prose Comprehension, Document Literacy, and Quantitative Literacy -- describe our attempt to identify task characteristics underlying difficulty at various points on each of the three scales. Task characteristics were identified on the basis of the complexity of the information-processing demands required for successful performance rather than by the vocabulary load or sentence length of the text alone. Because there are relatively few tasks on the prose and quantitative scales, it was not feasible to provide meaningful descriptions at identical numerical points (e.g., standard deviation units) on each of the three scales. In addition, one would not expect that on each of the scales, tasks exemplifying important shifts in demands would fall at comparable points.

Beginning with the 1983-84 reading assessment, NAEP chose to anchor items representing standard deviation units along the reading proficiency scale. The exemplars selected discriminated between each pair of standard deviation units in the following way: The NAEP reading proficiency scale was designed to extend from 0 to 500 with a mean of 250 and a standard deviation of 50. Thus, the selected anchor points were 150, 200, 250, 300, 350 (Beaton, 1986; NAEP Technical Report, 1986). The criteria for selecting exemplars at each anchor point were that 80% or more of the students at that point (e.g., 250) answered the item correctly while less than 50% of the students at the next lower level (e.g., 200) answered the item correctly. Descriptions characterizing tasks at each of the five points are presented in the Reading Report Card (NAEP, 1985) and are reproduced in Chapter V of this report.

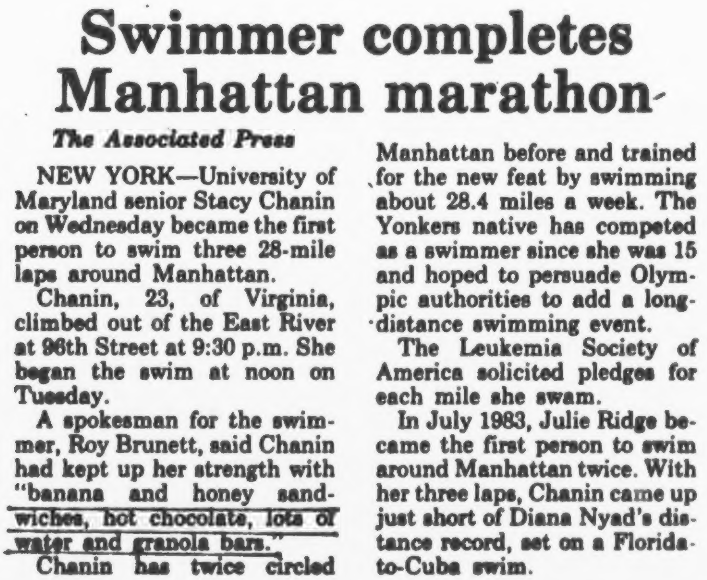
In the context of the adult literacy study, the particular exemplars selected for the three newly developed scales -- prose, document, and quantitative -- not only represent performance at a given level of difficulty but also reflect the combination of characteristics interpreted to be associated with performance at increasing levels of difficulty. On the prose comprehension scale, characteristics were identified that seemed to reflect three qualitatively different aspects of reading comprehension. Each of these three aspects contributes to a broad range of difficulty, with significant overlap among the three. Of particular interest is the fact that one of these aspects plays a dominant role in defining the various levels of difficulty on the document scale. To a lesser extent, this aspect also contributes to the continuum of difficulty on the quantitative scale.

Prose Comprehension Scale

The prose comprehension scale is characterized by three distinct aspects: 1) matching information in a question or document with literal and corresponding text information; 2) producing and interpreting text information; and, 3) generating a theme or organizing principle from text information. Each of these aspects is described and their range of difficulty highlighted by several tasks from the adult assessment. In selected instances, not only is the task described but the actual text is reproduced. The decision to reproduce only selected tasks was made so that the majority of the tasks would remain secure for future use.

Matching of literal and corresponding text information. Readers successfully performing these tasks match information in a question or directive with either explicit or corresponding information (i.e., having less obvious identity with information) stated in the text.

Proficiency in matching text information represents a continuum. This continuum is defined by the number of features that readers must identify to match information asked for in a question or directive with explicit or corresponding information in text. At the simplest end of the continuum, readers match question or directive information with text information on the basis of a single, commonly shared feature. For example, a passage reprinted in a newspaper about a marathon swimmer makes only one reference to food eaten during a marathon swim. A directive asks readers to underline the sentence that tells what food the swimmer ate during the swim. The directive is satisfied by matching "banana and honey sandwiches, hot chocolate, lots of water and granola bars" in the text with the feature "food eaten" in the directive.



Swimmer completes Manhattan marathon

The Associated Press

NEW YORK—University of Maryland senior Stacy Chanin on Wednesday became the first person to swim three 28-mile laps around Manhattan.

Chanin, 23, of Virginia, climbed out of the East River at 96th Street at 9:30 p.m. She began the swim at noon on Tuesday.

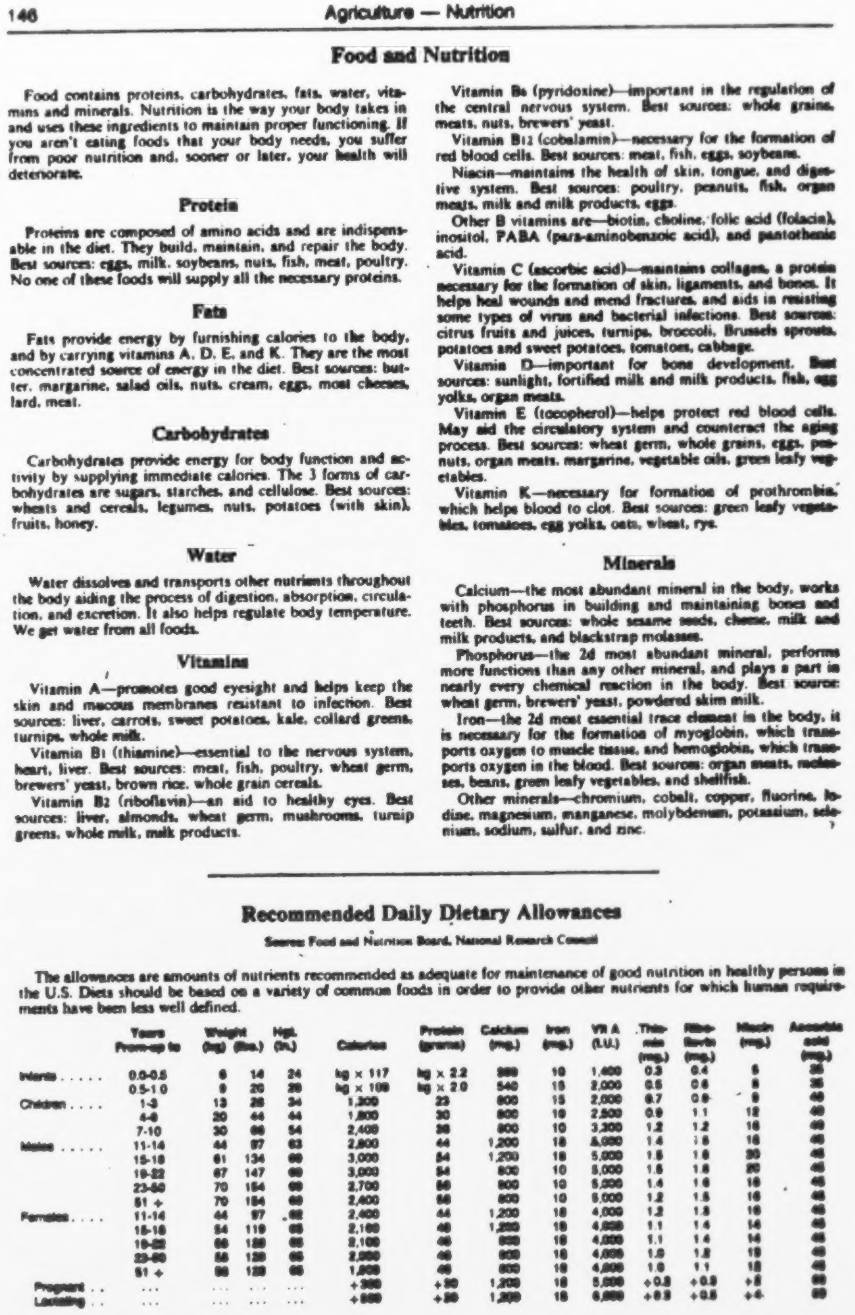
A spokesman for the swimmer, Roy Brunett, said Chanin had kept up her strength with "banana and honey sandwiches, hot chocolate, lots of water and granola bars."

Chanin has twice circled Manhattan before and trained for the new feat by swimming about 28.4 miles a week. The Yonkers native has competed as a swimmer since she was 15 and hoped to persuade Olympic authorities to add a long-distance swimming event.

The Leukemia Society of America solicited pledges for each mile she swam.

In July 1983, Julie Ridge became the first person to swim around Manhattan twice. With her three laps, Chanin came up just short of Diana Nyad's distance record, set on a Florida-to-Cuba swim.

Of moderate difficulty is a task requiring the reader to match information in a directive with expository information on the basis of three literal features - vitamins, vitamin E, sources. Specifically, the directive requires the reader to locate and copy three sources of vitamin E given in an almanac. The page containing this information is reproduced here.



146 Agriculture — Nutrition

Food and Nutrition

Food contains proteins, carbohydrates, fats, water, vitamins and minerals. Nutrition is the way your body takes in and uses these ingredients to maintain proper functioning. If you aren't eating foods that your body needs, you suffer from poor nutrition and, sooner or later, your health will deteriorate.

Protein

Proteins are composed of amino acids and are indispensable in the diet. They build, maintain, and repair the body. Best sources: eggs, milk, soybeans, nuts, fish, meat, poultry. No one of these foods will supply all the necessary proteins.

Fats

Fats provide energy by furnishing calories to the body, and by carrying vitamins A, D, E, and K. They are the most concentrated source of energy in the diet. Best sources: butter, margarine, salad oils, nuts, cream, eggs, most cheeses, lard, meat.

Carbohydrates

Carbohydrates provide energy for body function and activity by supplying immediate calories. The 3 forms of carbohydrates are sugars, starches, and cellulose. Best sources: wheats and cereals, legumes, nuts, potatoes (with skin), fruits, honey.

Water

Water dissolves and transports other nutrients throughout the body aiding the process of digestion, absorption, circulation, and excretion. It also helps regulate body temperature. We get water from all foods.

Vitamins

Vitamin A—promotes good eyesight and helps keep the skin and mucous membranes resistant to infection. Best sources: liver, carrots, sweet potatoes, kale, collard greens, turnips, whole milk.

Vitamin B_1 (thiamine)—essential to the nervous system, heart, liver. Best sources: meat, fish, poultry, wheat germ, brewers' yeast, brown rice, whole grain cereals.

Vitamin B_2 (riboflavin)—an aid to healthy eyes. Best sources: liver, almonds, wheat germ, mushrooms, turnip greens, whole milk, milk products.

Vitamin B_6 (pyridoxine)—important in the regulation of the central nervous system. Best sources: whole grains, meats, nuts, brewers' yeast.

Vitamin B_{12} (cobalamin)—necessary for the formation of red blood cells. Best sources: meat, fish, eggs, soybeans.

Niacin—maintains the health of skin, tongue, and digestive system. Best sources: poultry, peanuts, fish, organ meats, milk and milk products, eggs.

Other B vitamins are—biotin, choline, folic acid (folacin), inositol, PABA (para-aminobenzoic acid), and pantothenic acid.

Vitamin C (ascorbic acid)—maintains collagen, a protein necessary for the formation of skin, ligaments, and bones. It helps heal wounds and mend fractures, and aids in resisting some types of virus and bacterial infections. Best sources: citrus fruits and juices, turnips, broccoli, Brussels sprouts, potatoes and sweet potatoes, tomatoes, cabbage.

Vitamin D—important for bone development. Best sources: sunlight, fortified milk and milk products, fish, egg yolks, organ meats.

Vitamin E (tocopherol)—helps protect red blood cells. May aid the circulatory system and counteract the aging process. Best sources: wheat germ, whole grains, eggs, peanuts, organ meats, margarine, vegetable oils, green leafy vegetables.

Vitamin K—necessary for formation of prothrombin, which helps blood to clot. Best sources: green leafy vegetables, tomatoes, egg yolks, oats, wheat, rye.

Minerals

Calcium—the most abundant mineral in the body, works with phosphorus in building and maintaining bones and teeth. Best sources: whole sesame seeds, cheese, milk and milk products, and blackstrap molasses.

Phosphorus—the 2d most abundant mineral, performs more functions than any other mineral, and plays a part in nearly every chemical reaction in the body. Best sources: wheat germ, brewers' yeast, powdered skim milk.

Iron—the 2d most essential trace element in the body, it is necessary for the formation of myoglobin, which transports oxygen to muscle tissue, and hemoglobin, which transports oxygen in the blood. Best sources: organ meats, molasses, beans, green leafy vegetables, and shellfish.

Other minerals—chromium, cobalt, copper, fluorine, iodine, magnesium, manganese, molybdenum, potassium, selenium, sodium, sulfur, and zinc.

Recommended Daily Dietary Allowances

Source: Food and Nutrition Board, National Research Council

The allowances are amounts of nutrients recommended as adequate for maintenance of good nutrition in healthy persons in the U.S. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined.

	Years From-up to	Weight (kg)	Weight (lbs.)	Hgt. (in.)	Calories	Protein (grams)	Calcium (mg.)	Iron (mg.)	Vit A (I.U.)	Thiamin (mg.)	Riboflavin (mg.)	Niacin (mg.)	Ascorbic acid (mg.)
Infants	0.0-0.5	6	14	24	kg × 117	kg × 2.2	360	10	1,400	0.3	0.4	5	35
	0.5-1.0	9	20	28	kg × 108	kg × 2.0	540	15	2,000	0.5	0.6	8	35
Children	1-3	13	28	34	1,300	23	800	15	2,000	0.7	0.8	9	40
	4-6	20	44	44	1,800	30	800	10	2,500	0.9	1.1	12	40
	7-10	30	66	54	2,400	36	800	10	3,300	1.2	1.2	16	40
Males	11-14	44	97	63	2,800	44	1,200	18	5,000	1.4	1.5	18	45
	15-18	61	134	69	3,000	54	1,200	18	5,000	1.5	1.8	20	45
	19-22	67	147	69	3,000	54	800	10	5,000	1.5	1.8	20	45
	23-50	70	154	69	2,700	56	800	10	5,000	1.4	1.6	18	45
	51 +	70	154	69	2,400	56	800	10	5,000	1.2	1.5	16	45
Females	11-14	44	97	62	2,400	44	1,200	18	4,000	1.2	1.3	16	45
	15-18	54	119	65	2,100	48	1,200	18	4,000	1.1	1.4	14	45
	19-22	58	128	65	2,100	46	800	18	4,000	1.1	1.4	14	45
	23-50	58	128	65	2,000	46	800	18	4,000	1.0	1.2	13	45
	51 +	58	128	65	1,800	46	800	10	4,000	1.0	1.1	12	45
Pregnant . .	...	...	...	...	+300	+30	1,200	18	5,000	+0.3	+0.3	+2	60
Lactating . .	...	...	...	...	+500	+20	1,200	18	6,000	+0.3	+0.5	+4	80

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Within this assessment, the most complex matching task requires the reader to identify corresponding information in the text of a newspaper article with information in the directive on the basis of three categories of information -- people, action, situation. The directive asks the reader to underline the sentence that states what Australians did to help them decide how to deal with moral and legal issues raised by the existence of frozen, human embryos. Many readers appeared to focus on one or two features and mistakenly underlined a sentence within the text that contained only one or two of the necessary features. In some instances readers underlined a sentence which focused on the consequences of the action taken (i.e., thawing of the embryos) rather than the action itself (i.e., setting up a commission to study the matter).

Producing and interpreting text information. Readers successfully performing these tasks use background knowledge or a combination of background knowledge and text information to produce a response that supports a category given in a question or directive.

Tasks requiring the reader to produce or interpret text information cover a wide range of difficulty. But, on average, these tasks are somewhat more difficult than those requiring the reader to match identical or corresponding information. However, the difficulty of these two sets of tasks overlap. For example, at the simplest level, the directive to readers asks them to briefly describe in writing the kind of job they would like to have. Response at this simplest level probably reflects personalized background knowledge and is comparable in difficulty to tasks requiring the matching of a single feature (see Table 3.1).

A task of moderate difficulty within this set requires the reader to interpret a directive given in the form of an appliance warranty. The task requires the reader to identify the most appropriate of four statements describing the malfunction of the appliance. This task draws on the interpretive skill of the reader combined with his or her familiarity with using documents such as a warranty.

A manufacturing company provides its customers with the following instructions for returning appliances for service:

> When returning appliance for servicing, include a note telling as clearly and as specifically as possible what is wrong with the appliance.

A repair person for the company receives four appliances with the following notes attached. Circle the letter next to the note which best follows the instructions supplied by the company.

A The clock does not run correctly on this clock radio. I tried fixing it, but I couldn't.

B My clock radio is not working. It stopped working right after I used it for five days.

C The alarm on my clock radio doesn't go off at the time I set. It rings 15-30 minutes later.

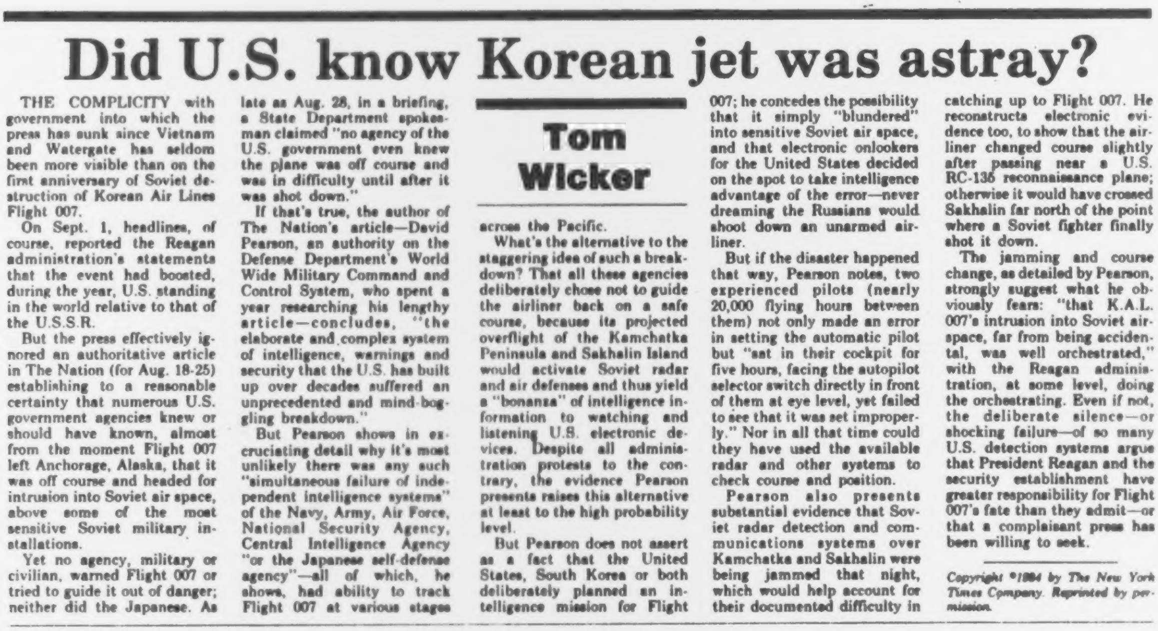
D This radio is broken. Please repair and return by United Parcel Service to the address on my slip.

Approximating the most complex three-feature-matching task (corresponding) in this assessment is a task that requires the reader to orally state two differences between discrete but related categories from a description of work related benefits. Unlike the first task in this set, correct interpretation of the text does not appear to rely as heavily on the personalized background knowledge of the reader. This task requires the reader to not only understand the information given in each benefit classification but to compare and contrast information between the two classifications.

Generating a theme or organizing principle from text information. Readers successfully performing these tasks are able to synthesize information in order to generate a theme or organizing principle that is consistent with arguments provided in a text.

As with tasks from the two preceding sets (requiring the reader to either match identical or corresponding information or produce and interpret text supporting a given category), tasks requiring the reader to generate a theme or organizing principle also fall on a continuum. At the simplest level the reader's task is to generate a theme from relatively short text in which a number of different metaphors are presented in a poem to represent a single relatively familiar concept. Despite the use of different metaphors, it is the repetitive nature of the allusions to a single concept that appears to make this task relatively easy. This task compares in difficulty with a three-feature literal matching task and with the task requiring the reader to interpret information contained in an appliance warranty.

For somewhat more difficult tasks in this set, the reader is directed to synthesize repetitive statements of an argument, to generate a theme or organizing principle, or to recognize an inappropriate summary. At this level, the repetitive statements are elaborated in the text so that the propositions supporting the theme, though repetitive are widely separated in lengthy text. For example, one question directs the reader to state what argument Tom Wicker is making in the editorial below.



Did U.S. know Korean jet was astray?

Tom Wicker

THE COMPLICITY with government into which the press has sunk since Vietnam and Watergate has seldom been more visible than on the first anniversary of Soviet destruction of Korean Air Lines Flight 007.

On Sept. 1, headlines, of course, reported the Reagan administration's statements that the event had boosted, during the year, U.S. standing in the world relative to that of the U.S.S.R.

But the press effectively ignored an authoritative article in The Nation (for Aug. 18-25) establishing to a reasonable certainty that numerous U.S. government agencies knew or should have known, almost from the moment Flight 007 left Anchorage, Alaska, that it was off course and headed for intrusion into Soviet air space, above some of the most sensitive Soviet military installations.

Yet no agency, military or civilian, warned Flight 007 or tried to guide it out of danger; neither did the Japanese. As late as Aug. 28, in a briefing, a State Department spokesman claimed "no agency of the U.S. government even knew the plane was off course and was in difficulty until after it was shot down."

If that's true, the author of The Nation's article—David Pearson, an authority on the Defense Department's World Wide Military Command and Control System, who spent a year researching his lengthy article—concludes, "the elaborate and complex system of intelligence, warnings and security that the U.S. has built up over decades suffered an unprecedented and mind-boggling breakdown."

But Pearson shows in excruciating detail why it's most unlikely there was any such "simultaneous failure of independent intelligence systems" of the Navy, Army, Air Force, National Security Agency, Central Intelligence Agency "or the Japanese self-defense agency"—all of which, he shows, had ability to track Flight 007 at various stages across the Pacific.

What's the alternative to the staggering idea of such a breakdown? That all these agencies deliberately chose not to guide the airliner back on a safe course, because its projected overflight of the Kamchatka Peninsula and Sakhalin Island would activate Soviet radar and air defenses and thus yield a "bonanza" of intelligence information to watching and listening U.S. electronic devices. Despite all administration protests to the contrary, the evidence Pearson presents raises this alternative at least to the high probability level.

But Pearson does not assert as a fact that the United States, South Korea or both deliberately planned an intelligence mission for Flight 007; he concedes the possibility that it simply "blundered" into sensitive Soviet air space, and that electronic onlookers for the United States decided on the spot to take intelligence advantage of the error—never dreaming the Russians would shoot down an unarmed airliner.

But if the disaster happened that way, Pearson notes, two experienced pilots (nearly 20,000 flying hours between them) not only made an error in setting the automatic pilot but "sat in their cockpit for five hours, facing the autopilot selector switch directly in front of them at eye level, yet failed to see that it was set improperly." Nor in all that time could they have used the available radar and other systems to check course and position.

Pearson also presents substantial evidence that Soviet radar detection and communications systems over Kamchatka and Sakhalin were being jammed that night, which would help account for their documented difficulty in catching up to Flight 007. He reconstructs electronic evidence too, to show that the airliner changed course slightly after passing near a U.S. RC-135 reconnaissance plane; otherwise it would have crossed Sakhalin far north of the point where a Soviet fighter finally shot it down.

The jamming and course change, as detailed by Pearson, strongly suggest what he obviously fears: "that K.A.L. 007's intrusion into Soviet airspace, far from being accidental, was well orchestrated," with the Reagan administration, at some level, doing the orchestrating. Even if not, the deliberate silence—or shocking failure—of so many U.S. detection systems argue that President Reagan and the security establishment have greater responsibility for Flight 007's fate than they admit—or that a complaisant press has been willing to seek.

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An even more difficult task requires the reader to generate a theme from very brief text using a single, unfamiliar metaphor. It appears that the difficulty of this task results from the use of a relatively unfamiliar metaphor with no repetition of the theme to assist the reader in interpretation. The importance of argument repetition to facilitate comprehension is well documented in the literature (Kintsch & Young, 1982).

What is the poet trying to express in this poem? ____________________

____

____

____

The pedigree of honey
Does not concern the Bee —
A clover, any time, to him
Is Aristocracy — (Emily Dickinson)

____ ____ ____ ____

Reprinted by permission of the publishers and the Trustees of Amherst College from *The Poems of Emily Dickinson*, edited by Thomas H. Johnson, Cambridge, Mass.: The Belknap Press of Harvard University Press, Copyright 1951, © 1955, 1979, 1983 by the President and fellows of Harvard College.

Summary. The fifteen tasks comprising the prose comprehension scale appear to reflect three qualitatively different aspects of reading comprehension. They have been described as: 1) matching of literal and corresponding information; 2) producing and interpreting text information; and, 3) generating a theme or organizing principle from text information. While on average these three sets of tasks represent increasing levels of difficulty, each set provides a continuum of difficulty with overlap among each set. The overlap among these three sets of tasks is such that for most levels of proficiency on the prose comprehension scale, successful performance involves not a single aspect, but rather various combinations of the three sets of tasks. Thus, we see from Table 3.1 that across a broad range of the scale successful performance is associated with proficiency on each of the three sets of comprehension tasks. For example, of the tasks presented or described, it will be seen from Table 3.1 that performance at the level of about 280 reflects proficiency with tasks involving a 3-feature literal match, appropriate interpretation of an appliance warranty, as well as generation of a familiar theme from repetitive allusions used in poetic form -- each with 80% probability (RP80) of success.

Table 3.1 - Selected Tasks and Corresponding Levels of Difficulty Defining the Three Aspects of the Prose Comprehension Scale

Selected Prose Comprehension Tasks

Levels of Difficulty	Matching Literal and Corresponding Information	Producing and Interpreting Text	Generating a Theme
500			
400	-3-feature match from newspaper article (corresponding) **(397)***		-Generate theme from single unfamiliar metaphor **(387)***
375		-Interpret job-related benefit classification **(371)***	
350			-Generate theme from repetitive argument widely dispersed **(340)***
325			
300			
275	-3-feature match from a page of text in an almanac (literal) **(281)***	-Interpret appliance appliance warranty **(279)***	-Generate familiar theme from argument **(278)***
250			
225	-1-feature match from newspaper article (corresponding) **(210)***		
200		-Produce text with personalized background **(199)***	
0			

*Designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

Document Literacy Scale

Readers successfully performing tasks on this scale are able to identify and match information in a question or directive to either literal or corresponding information in a separate document or documents.

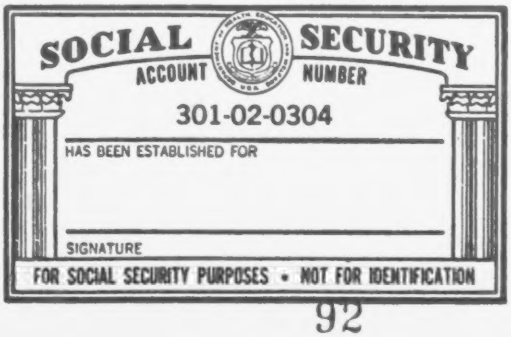
In this assessment, a task begins with information presented in a question or directive. The reader must first identify the important information that must be matched to information in a document. In some instances, the information stated in the question or directive is personal background information -- such as name, age, height, or sex -- that must be entered in an appropriate location on a document. If the reader is familiar with the document, he or she may know where the requested information needs to be entered or is located. In this case, the reader can execute the match by entering the appropriate information. If the reader is unfamiliar with the document, she or he must search through the document to locate the appropriate information. In this latter case, various combinations of task characteristics serve to extend the matching process over a broad range of difficulty. In some instances, successful task performance is facilitated by procedural knowledge associated with transferring and entering information given in one source or document to another document, e.g., completing a check, filling out an order form.

Among the most important characteristics associated with task difficulty are: the number of features that readers must identify in the question or directive and match to features of information in a document; the degree to which feature information given in the question or directive corresponds to or is closely identified with the requested information in the document; and, the number of exemplars or representations in the document that have at least one feature in common with those in the question or directive that serve as distractors or possible right answers for the reader.

Once a match between question or directive and document information is made, the reader must determine whether the information matched on is sufficient, i.e., whether or not the match satisfies the requirements in the question or directive. If sufficient, the reader executes the match. If insufficient, the reader must cycle back through the process. This might require the reader to re-identify features in a question or directive or to re-enter the document and to search and locate additional features. Once the reader determines that sufficient information has been matched, she or he executes the task by completing the directive.

A few examples will be given to highlight the range of difficulty associated with this matching process. Various tasks are described here and summarized in Table 3.2. The simplest task on this scale directs the reader to enter personal background information in a specified location on a document. In this task, the reader is directed to "Look at the Social Security card. Sign your name on the line marked signature." Several characteristics combine to make this task easy. First, it may be assumed that the information requested (one's name) is known. Second, there is only one category of information given in the directive that must be located in the document. This requires the reader to match the specific instance "your name" to the category "signature." Third, there is only one exemplar or place on the document where the reader may respond.

Here is a Social Security card. Sign your name on the line that reads "signature."



SOCIAL SECURITY
ACCOUNT NUMBER
301-02-0304
HAS BEEN ESTABLISHED FOR

SIGNATURE
FOR SOCIAL SECURITY PURPOSES • NOT FOR IDENTIFICATION

Tasks on this scale become increasingly more difficult as the three task characteristics described above vary in combination with one another. For example, tasks that are slightly more difficult also involve matching literal information on the basis of a single feature in documents that contain only one exemplar. Several tasks at this level ask the reader to find information that is presented on a form to be used for setting up a meeting room. The distinguishing characteristic in these tasks appears to be that the information is not represented in the respondent's personal background knowledge. Information that is requested includes time and date of the meeting. These two tasks each require the reader to match on a single, literal feature using a document containing only a single exemplar. The reader is required to locate this information in the document and write it in space provided in the question.

III-23

You are responsible for preparing a room for a meeting.

What is the:

date?______________________________

time?______________________________

HOSPITAL MEDICAL CENTER
STAFF EDUCATION DEPARTMENT
Red Bud Room

Program Nurses Convention

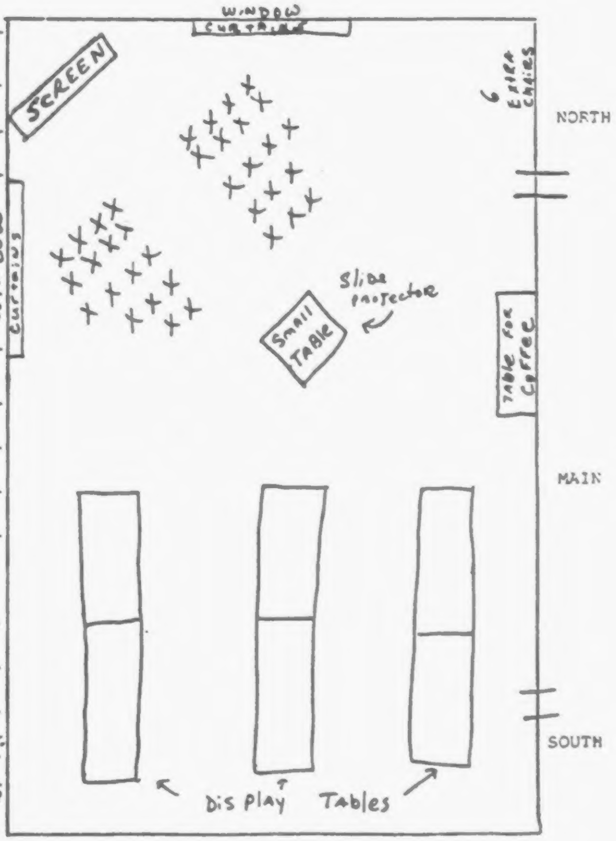
Person In Charge Mrs. Mathews

Day Tuesday Date July 10 Time 1:00 p.m.

Number Expected 35

A.V. Material

- Slide projector
- Screen
- Small table for projector


WINDOW
CURTAINS
SCREEN
6 EXTRA CHAIRS
NORTH
WINDOW
CURTAINS
Slide projector
Small Table
Table for Coffee
MAIN
SOUTH
Display Tables

Comments

Need 6 extra chairs.

Make sure curtains close all the way.

6 Tables For Displays

1 Table For Coffee

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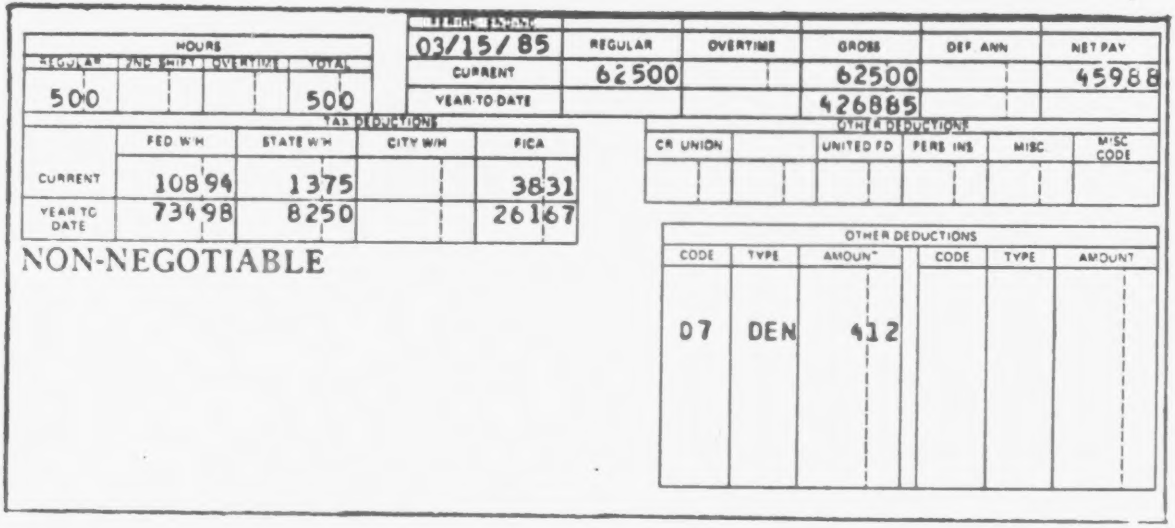
At the next level of difficulty, several tasks require the reader to match information on the basis of two commonly shared features. In each task the feature match is literal but the documents contain several exemplars which serve as distractors to the reader. For example, one task directs the reader to put an "X" on a map where two particular streets intersect. Each street intersects with a number of other streets and each of these represents a possible exemplar. Another task requires the reader to look at a pay stub summarizing wage information. The reader is asked to write the "gross pay for this year to date."

Here is a wage and tax statement that comes with a paycheck.

What is the current net pay? ______________________

What is the gross pay for this year to date? ______________



HOURS			
REGULAR	2ND SHIFT	OVERTIME	TOTAL
500			500

[illegible]	REGULAR	OVERTIME	GROSS	DEF ANN	NET PAY
03/15/85					
CURRENT	62500		62500		45988
YEAR-TO-DATE			426885		

TAX DEDUCTIONS				
	FED W/H	STATE W/H	CITY W/H	FICA
CURRENT	108 94	13 75		38 31
YEAR TO DATE	734 98	82 50		261 67

OTHER DEDUCTIONS					
CR UNION		UNITED FD	PERS INS	MISC	MISC CODE

NON-NEGOTIABLE

OTHER DEDUCTIONS					
CODE	TYPE	AMOUNT	CODE	TYPE	AMOUNT
07	DEN	4 12			

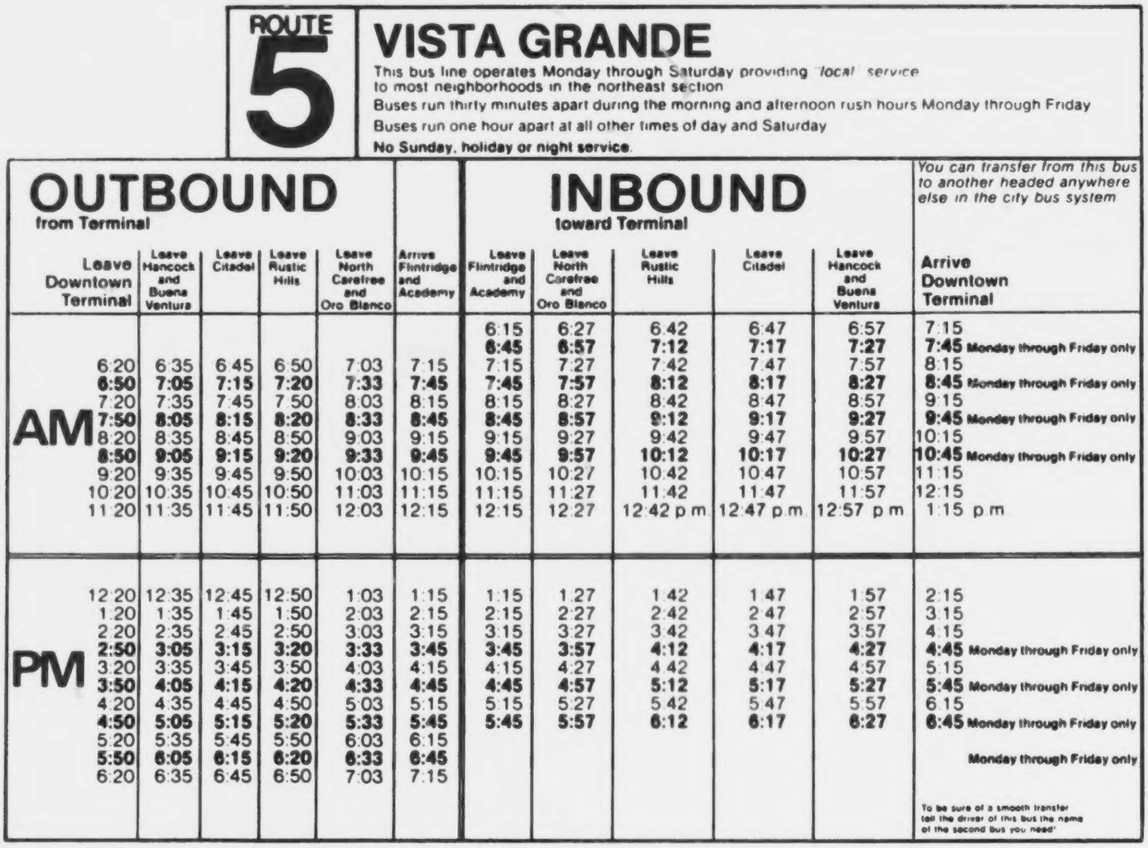
If the reader fails to match on both features -- "gross" and "year-to-date" -- he or she is likely to provide an incorrect amount, such as $625.00, or some other exemplar indicating a dollar amount. A second question requiring the use of this document was also expected to require a two-feature match -- "current" and "net pay" -- and therefore, to be of approximately equivalent difficulty. However, the empirical data placed this task at the level of a single-feature match. Inspection of the document reveals that the reader only had to match on a single feature since only a single exemplar is given in the column headed "net pay."

Another type of task comparable in difficulty to the two-feature match demonstrates the way the interaction of various task characteristics can affect difficulty. In one instance, the reader is directed to complete a check based on information presented in a credit card bill. The reader first matches information on the basis of a single, literal feature and then must enter that information in the appropriate location on the check. This requires that she or he not only match the single feature of information correctly, but also that he or she has the procedural knowledge of where and how to locate the information on the check.

At succeeding levels of difficulty the reader is required to match information on the basis of increasing numbers of features, in some cases these are literal, in others the matching is based on varying degrees of corresponding information. Also common to these tasks is the increasing number of exemplars or distractors that are represented in the document. For example, one of the most difficult tasks on this document scale requires the reader to use a bus schedule. To respond correctly, the reader must match question and document information on the basis of six features -- Saturday, afternoon, missed 2:35, leaving Hancock and Buena Ventura, arriving Flintridge and Academy, how long is wait for next bus.

Insert Bus Schedule.

Refer to the following bus schedule for the Vista Grande route. Use the bus schedule to answer the questions.



ROUTE 5

VISTA GRANDE

This bus line operates Monday through Saturday providing *"local"* service to most neighborhoods in the northeast section

Buses run thirty minutes apart during the morning and afternoon rush hours Monday through Friday

Buses run one hour apart at all other times of day and Saturday

No Sunday, holiday or night service.

OUTBOUND from Terminal — **INBOUND** toward Terminal

You can transfer from this bus to another headed anywhere else in the city bus system

	Leave Downtown Terminal	Leave Hancock and Buena Ventura	Leave Citadel	Leave Rustic Hills	Leave North Carefree and Oro Blanco	Arrive Flintridge and Academy	Leave Flintridge and Academy	Leave North Carefree and Oro Blanco	Leave Rustic Hills	Leave Citadel	Leave Hancock and Buena Ventura	Arrive Downtown Terminal	
AM							6:15	6:27	6:42	6:47	6:57	7:15	
							6:45	**6:57**	**7:12**	**7:17**	**7:27**	**7:45**	Monday through Friday only
	6:20	6:35	6:45	6:50	7:03	7:15	7:15	7:27	7:42	7:47	7:57	8:15	
	6:50	**7:05**	**7:15**	**7:20**	**7:33**	**7:45**	**7:45**	**7:57**	**8:12**	**8:17**	**8:27**	**8:45**	Monday through Friday only
	7:20	7:35	7:45	7:50	8:03	8:15	8:15	8:27	8:42	8:47	8:57	9:15	
	7:50	**8:05**	**8:15**	**8:20**	**8:33**	**8:45**	**8:45**	**8:57**	**9:12**	**9:17**	**9:27**	**9:45**	Monday through Friday only
	8:20	8:35	8:45	8:50	9:03	9:15	9:15	9:27	9:42	9:47	9:57	10:15	
	8:50	**9:05**	**9:15**	**9:20**	**9:33**	**9:45**	**9:45**	**9:57**	**10:12**	**10:17**	**10:27**	**10:45**	Monday through Friday only
	9:20	9:35	9:45	9:50	10:03	10:15	10:15	10:27	10:42	10:47	10:57	11:15	
	10:20	10:35	10:45	10:50	11:03	11:15	11:15	11:27	11:42	11:47	11:57	12:15	
	11:20	11:35	11:45	11:50	12:03	12:15	12:15	12:27	12:42 p.m.	12:47 p.m.	12:57 p.m.	1:15 p.m.	
PM	12:20	12:35	12:45	12:50	1:03	1:15	1:15	1:27	1:42	1:47	1:57	2:15	
	1:20	1:35	1:45	1:50	2:03	2:15	2:15	2:27	2:42	2:47	2:57	3:15	
	2:20	2:35	2:45	2:50	3:03	3:15	3:15	3:27	3:42	3:47	3:57	4:15	
	2:50	**3:05**	**3:15**	**3:20**	**3:33**	**3:45**	**3:45**	**3:57**	**4:12**	**4:17**	**4:27**	**4:45**	Monday through Friday only
	3:20	3:35	3:45	3:50	4:03	4:15	4:15	4:27	4:42	4:47	4:57	5:15	
	3:50	**4:05**	**4:15**	**4:20**	**4:33**	**4:45**	**4:45**	**4:57**	**5:12**	**5:17**	**5:27**	**5:45**	Monday through Friday only
	4:20	4:35	4:45	4:50	5:03	5:15	5:15	5:27	5:42	5:47	5:57	6:15	
	4:50	**5:05**	**5:15**	**5:20**	**5:33**	**5:45**	**5:45**	**5:57**	**6:12**	**6:17**	**6:27**	**6:45**	Monday through Friday only
	5:20	5:35	5:45	5:50	6:03	6:15							
	5:50	**6:05**	**6:15**	**6:20**	**6:33**	**6:45**							Monday through Friday only
	6:20	6:35	6:45	6:50	7:03	7:15							

To be sure of a smooth transfer tell the driver of this bus the name of the second bus you need'

On Saturday afternoon, if you miss the 2:35 bus leaving Hancock and Buena Ventura going to Flintridge and Academy, how long will you have to wait for the next bus?

- **A** Until 2:57 p.m.
- **B** Until 3:05 p.m.
- **C** Until 3:35 p.m.
- **D** Until 3:57 p.m.
- **E** I don't know.

Another task requiring the reader to match on fewer features using the bus schedule is significantly less difficult (Table 3.2). This task requires the reader to match on four features -- Saturday, morning, second bus, arrive Downtown Terminal.

> On Saturday morning, what time does the second bus arrive at the Downtown Terminal?
>
> **A** 6:50 a.m.
>
> **B** 7:45 a.m.
>
> **C** 8:15 a.m.
>
> **D** 8:45 a.m.
>
> **E** I don't know.

Summary. In brief, proficiency on the document scale is characterized by various combinations of literal and corresponding matching of information from a question or directive to a document. In addition, other task characteristics serve to interact to either facilitate or hinder the matching process. These include the following: the number of features the reader needs to match on; the level of correspondence between information stated in the question or directive and that given in the document; and, the number of exemplars in the document serving as distractors. Difficulty increases along with the increase in the number of features to be matched, the increase in the number of exemplars serving as distractors, and the degree to which information in the question or directive lacks correspondence or identity with the needed information in the document. These interactions among task characteristics are shown in Table 3.2.

Table 3.2 - Selected Tasks and Corresponding Levels of Difficulty Defining the Document Scale

Level of Difficulty	Selected Document Tasks
500	
400	
375	
	-6-feature match: Bus Schedule (Several Exemplars) **(365)***
350	
	-4-feature match: Bus Schedule
325	(Several Exemplars) **(334)***
300	
275	-1-feature match: Filling-in Checks: Dollars # **(259)*** (Proced. Knowledge) Date **(257)*** Dollar **(255)*** Pay to **(254)***
250	-2-feature match: Pay Stub: Gross, Year-to-date **(257)*** (Several Exemplars) Map: Location **(249)***
225	
200	-1-feature match: Pay Stub: Current Net Pay **(189)*** (1 Exemplar) Meeting Room Form: Date **(182)*** Time **(169)***
175	
150	
125	-1-feature match: Sign Name **(110)*** (Personal Knowledge - 1 Exemplar)
0	

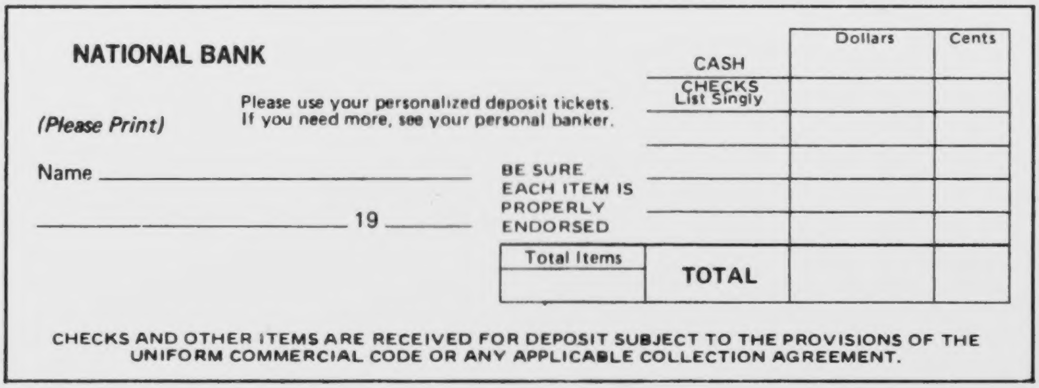
*Designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

Quantitative Literacy Scale

Readers successfully performing tasks on this scale are able to use mathematical operations such as addition, subtraction, multiplication, or division, either singly or in combination, to solve problems variously embedded in printed material.

Tasks on this scale form a continuum that is determined by the type of operation required, the number of operations needed, and the extent to which these operations are embedded in the literacy task. On this scale, the easiest task involved the addition of two numbers that appeared on a bank deposit slip. The task required the reader to total the two entries. Proficiency at totaling the figures appropriately on the deposit slip is shown along with additional examples in Table 3.3.

You wish to deposit a $300 check and $57.23 in cash in a checking account. Fill out your deposit slip to do so. List both deposits and indicate the total amount deposited. Date your deposit slip May 22, 1985.



NATIONAL BANK

(Please Print)

Please use your personalized deposit tickets.
If you need more, see your personal banker.

Name ____________________

____________________ 19 ______

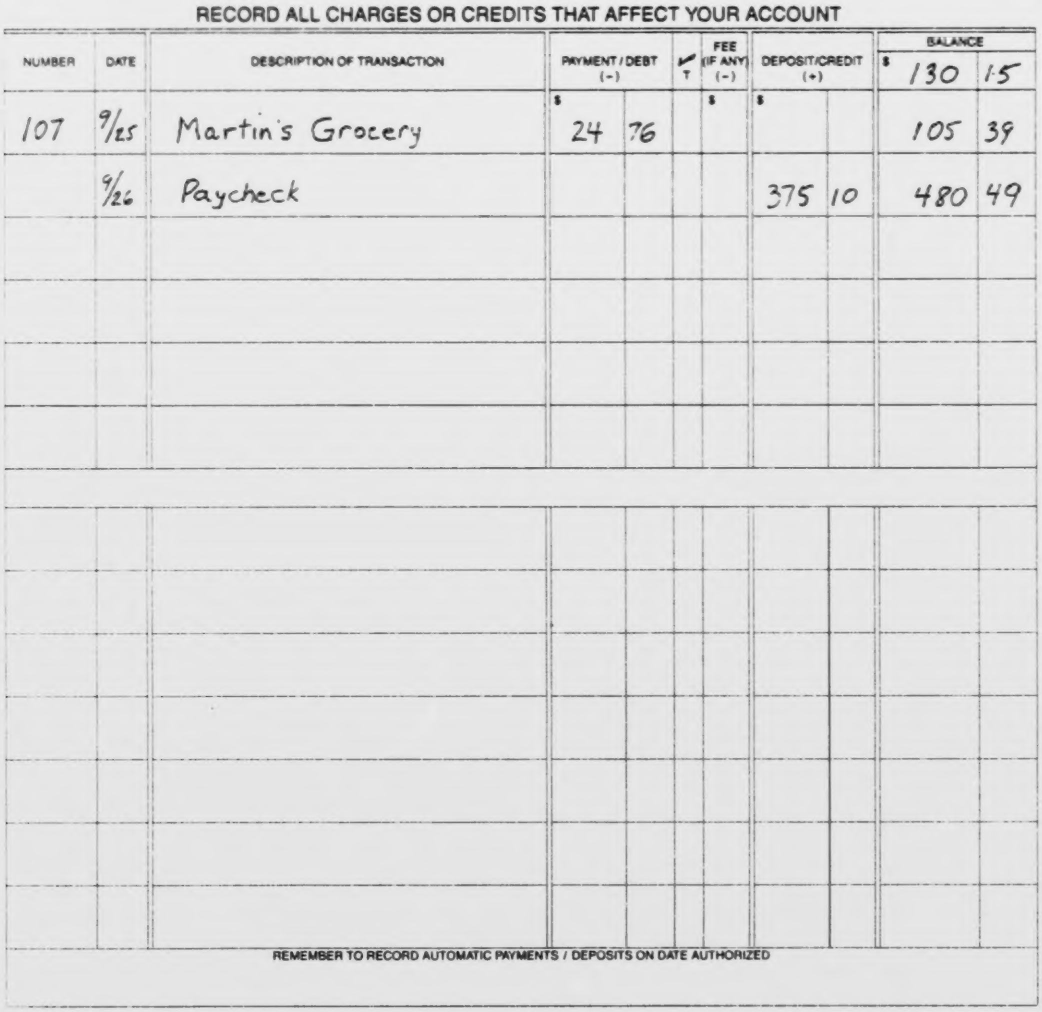
BE SURE
EACH ITEM IS
PROPERLY
ENDORSED

	Dollars	Cents
CASH		
CHECKS List Singly		
Total Items | TOTAL		

CHECKS AND OTHER ITEMS ARE RECEIVED FOR DEPOSIT SUBJECT TO THE PROVISIONS OF THE UNIFORM COMMERCIAL CODE OR ANY APPLICABLE COLLECTION AGREEMENT.

At the next level of difficulty, tasks still require a single operation, either addition or subtraction, but they also require that the reader enter the appropriate information from the question or directive onto the document before the operation may be completed. For example, one set of tasks directs the reader to maintain an accurate running balance in a checkbook.

> Complete the check ledger for the month of September. Keep a running total of the balance and include the following:
>
> $50 deposit on 9/27
> check 108 payable to Mr. Davis for $18.49 on 9/27
> check 109 payable to Electric Co. for $53 on 9/28
> the $5 monthly service fee for your checking account



RECORD ALL CHARGES OR CREDITS THAT AFFECT YOUR ACCOUNT

NUMBER	DATE	DESCRIPTION OF TRANSACTION	PAYMENT / DEBIT (-)		✓ T	FEE (IF ANY) (-)	DEPOSIT/CREDIT (+)		BALANCE	
									$ 130	15
107	9/25	Martin's Grocery	$ 24	76		$	$		105	39
	9/26	Paycheck					375	10	480	49

REMEMBER TO RECORD AUTOMATIC PAYMENTS / DEPOSITS ON DATE AUTHORIZED

Performance on tasks at the next level of difficulty require either two sequential operations or the application of a single higher level operation, such as multiplication. For example, in one task readers are shown a menu and are required to compute the cost of a specified meal and to determine the correct change from a specified amount. In a related but somewhat more difficult task, readers are directed to compute a ten percent tip based on the cost of the meal.

Suppose you had $3.00 to spend for lunch.

If you order a Lancaster Special sandwich and onion soup, how much change would you get back? ____________________

How much should you leave for a 10% tip? ______________

Soups — Made by our Chef Daily

Onion soup	.60
Soup of the day	.60
Vichyssoise in Summer	
Beef-burgers, broiled to order; ¼ lb. of the finest Beef available, seasoned to perfection and served on a buttered bun	1.85
Wine Cheddar-cheese burger	1.95
Blue-cheese burger	1.95
Pineapple burger	1.95
Bacon burger	2.10
Wine Cheddar-cheese & Bacon burger	2.25

Sandwiches

Sliced Turkey — Garnished	1.30
Turkey Salad — Garnished	.95
Chicken Salad — Garnished	.95
Tuna Fish Salad — Garnished	.95
Sliced Beef Tongue — Garnished	1.50
Grilled Wine Cheddar-Cheese	.75
The Lancaster Special Corned Beef, Melted Swiss Cheese, Sauerkraut on Seeded Rye . . . Need we say more?	1.95

Minimum Check at Lunch 1.00

For successful performance of the most difficult task on this scale, readers were required to disembed the appropriate features of a problem and then to explain what sequence of operations they would employ. Specifically, readers were shown a newspaper advertisement for a home equity loan. They were directed to explain how they would compute the total amount of interest charges they would pay under the specified conditions -- the total amount borrowed, the monthly payment, and the total number of payments.

Summary. Readers successfully performing items on this scale were required to demonstrate proficiency at using basic mathematical operations in the context of various literacy tasks. As represented in Table 3.3, difficulty on this scale appears to be associated not only with the type of operation but also with the number of operations required and the degree to which the problem is embedded in printed material. For example, a task involving the addition of two numbers already entered onto a deposit slip was significantly less difficult than the addition of two numbers in a checkbook when the reader was required to make the appropriate entries before completing the calculation. Similarly, a task requiring two operations -- addition and subtraction -- to pay for a meal and receive correct change was more difficult than those involving only addition but was less difficult than the task of calculating a tip -- multiplication of decimals. The most difficult task required the reader to describe the appropriate sequence of applying multiplication and subtraction to solve the problem of the total amount of interest charges that would be paid under the conditions of a particular advertisement for a loan.

Table 3.3 - Selected Tasks and Corresponding Levels of Difficulty Defining the Quantitative Scale

Level of Difficulty	Selected Quantitative Tasks
500	
	-2 Operations: Multiplication & subtraction plus feature match **(489)***
400	
375	
	-1 Operation: Multiplication: Lunch Menu - Tip **(356)***
350	
	-2 Operations: Addition & Subtraction: Lunch Menu - Change **(337)***
325	
300	
	-1 Operation: Addition plus feature match involving entering and calculating checkbook balance **(293, 289, 281, 281)***
275	
250	
	-1 Operation: Addition using deposit slip **(233)***
225	
200	
0	

*Designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

Relationships Among the Scales

The intercorrelations among the literacy scales for the total group of 3,474 respondents range from .49 to .56 (Table 3.4), thus revealing only a moderate level of association. Indeed, the intercorrelations provide further support for the notion that literacy skills can and should be separated along at least three distinct dimensions -- prose, document, and quantitative skills. These important distinctions would be lost if the diverse tasks from the current assessment had been aggregated and reported on a single scale.

Table 3.4

Intercorrelations Among the Three Literacy Scales
(N = 3,474)

	Prose	Document
Document	.55	
Quantitative	.49	.56

Summary and Conclusions

NAEP's assessment of young adults was concerned primarily with the processes of literacy rather than with literacy as a single standard. The concept adopted for this study views literacy as the application of skills for specific purposes in specific contexts and not simply as an isolated set of skills associated with reading and writing. It was expected that the wide variety of activities related to printed or written material was likely to require different types of literacy skills for successful performance. Moreover, given both complexity and diversity of literacy tasks in social contexts, it was deemed inappropriate to attempt to categorize individuals as either "literate" or "illiterate."

For example, in the recent literacy survey conducted by the Bureau of the Census (Barnes, 1986), 13% of the adult population was estimated to be "illiterate." This estimate resulted from an arbitrary cutpoint of 20 items correct on a 26-item test. It is difficult to understand how individuals who responded correctly to 19 or 73% of the items on this test are truly "illiterate." A more reasonable approach would be one that recognizes that people who demonstrate at least some proficiency with using printed material should not be classified as "illiterate." However, it must also be recognized that individuals with low or moderate skill levels may be unable to successfully engage in a wide range of tasks for many purposes. Thus, many individuals may not be as "literate" as one might like for full participation in a technologically advanced society (Purves & Niles, 1984). As a result, there is a broad range of proficiency levels at which people are neither "illiterate" nor "literate," to the extent that they can successfully deal with many of society's more challenging tasks.

What is needed is an approach that explicitly provides a means for understanding the various types and levels of literacy proficiency achieved within our society. Such an approach would provide a more accurate representation not only of the complex nature of literacy demands within a pluralistic society but also of the status of people functioning in our society.

A large pool of simulation tasks was developed to represent the broad range of purposes people have for engaging in print and the variety of materials associated with these purposes. Both theoretical and statistical approaches were employed to confirm the organization of this set of tasks into three literacy scales-- prose, document, and quantitative. In addition, the prose comprehension was subdivided into those simulation tasks developed for this assessment and those selected to provide a link to the 1983-84 NAEP Reading Proficiency Scale (Chapter V).

Item response theory (IRT) technology was employed as a scaling model to enhance the comparability and interpretability of results across age, groups, and time, and to provide a basis for relating background and attitude variables to observed literacy proficiencies. But however useful such derived scales may be, a need remains to develop supplementary information that is aimed at guiding their interpretation. This was accomplished in the assessment by selecting tasks at various points along each of the scales and identifying the underlying characteristics contributing to task difficulty.

Successful performance on the prose comprehension scale reflected three qualitatively different aspects of reading comprehension: matching information from a question or directive to literal or corresponding information in text; producing and interpreting text information; and, generating a theme or organizing principle from text information. The matching process was also identified as the major factor determining difficulty on the document scale. On the document scale, task difficulty was a function not only of the number of features to be matched, but also of the nature of the match -- literal or corresponding -- and the number of exemplars in the text serving as distractors. On the quantitative scale, successful performance involved the use of basic mathematical operations in the context of various literacy tasks. Difficulty on this scale was associated not only with the type of operation needed but also with the number of operations required and the degree to which the problem to be solved was embedded in print.

Moving from a single comprehensive literacy scale to multiple scales in which proficiencies can be profiled extends our understanding of the construct of literacy. That is, the implementation of multiple scales makes explicit an organizing framework for capturing in a useful way the diversity of tasks that have heretofore been reported in terms of a single index. The anchoring process described in this chapter takes us one step further in our understanding of the constructs being assessed by attempting to identify some of the major aspects contributing to task performance. It is through the identification of these task characteristics that one comes to better understand the meaning of the proficiency scores reported (Messick, 1986b).

Through the anchoring process described here, specific tasks involving a specific document -- e.g., a bus schedule -- fall along the scale not solely because of the document but as a result of the interaction between the document and the level of operation required in the question or directive. As reflected on the document scale, it would be wrong to conclude that persons unable to complete a six-feature match involving a bus schedule are also unable to successfully cope with a less demanding task also involving a bus schedule -- one that requires a two or three feature match. It is these finer distinctions that are interpreted to be associated with task performance that furthers the interpretability of proficiency scores. While we feel that the descriptions that resulted from the anchoring process account for the variability in task difficulty, it remains for future research either to extend and refine this approach or to refute the model put forward.

CHAPTER IV

PROFILING LITERACY AMONG AMERICA'S YOUNG ADULTS

> A national program for improving literacy would have to be based on the best possible information as to where the deficits are and how serious they are.
>
> --Carroll and Chall
> Toward a Literate Society

This chapter serves to describe the proficiencies for the total group of young adults assessed and for major subgroups of interest on each of the three literacy scales. These results are discussed in the context of task characteristics identified in the anchoring process as detailed in Chapter III. Specifically, this chapter treats differences in performance across the three literacy scales as well as group differences within each of the three literacy scales on the basis of sex, race/ethnicity, region of the country, respondents' education, and parental education. While we explored the results in terms of various combinations of these variables, the patterns of relationships found did not extend our understanding beyond that revealed by the major reporting categories. For interested readers, these analyses are contained in Appendix C.

In this report, the total group of young adults is limited to the English-speaking population who responded correctly to three or more of the core tasks (N = 3,474). It should be noted that there were 64 English-speaking persons who failed to respond correctly to at least three of the core tasks and who, therefore, were not administered the simulation tasks. In addition, there were 80 Spanish-speaking individuals in the assessment who did not receive the simulation tasks. Together, these subsamples represent some 438,000 individuals or about 2% of the total 21.1 million young adults in this age range. Since these individuals did not respond to the simulation tasks they were not included in total group estimates.

Typically in normative studies involving multiple measures, raw scores in the various areas assessed are converted to some form of standardized score using linear transformations on the basis of the performance of the total group assessed. This is done to allow comparison of the patterns or profiles of the means of various subgroups not only with the total population but with each other as well. However, Feldman (1973) and Jensen (1980) point out that the results of such comparisons are not as conclusive as has been generally supposed. They both argue that the resulting patterns or profiles are entirely a function of the particular groups that happen to have been included in the assessment, as well as of the particular method by which raw scores have been transformed before plotting the group means. As Feldman (1973) summarizes, "the distinction to be made is between rank orderings for groups within an

. . . area and rank orderings among . . . areas within a group. The former relationships do not change with data transformations, the latter do" (p. 14). Since the latter patterns or profiles within particular groups are changeable by statistically arbitrary data transformations, questions have been raised about what the patterns are and what they mean. The argument is not against the existence of performance patterns or profiles but rather concerns the nature of the true patterns or profiles given the arbitrary transformation applied.

Differences Across the Scales

In the adult literacy assessment, the problem identified by Jensen (1980) and Feldman (1973) concerning the particular groups included in the assessment is minimized by the fact that the groups surveyed are nationally representative samples of the population. Notwithstanding the difficulties in establishing profiles for comparative purposes described above, we expected that the data would reveal interesting patterns of performance across the four scales compared in this assessment. For example, because of the evidence suggesting that adults spend a relatively high amount of time using documents of some type, we anticipated that the tasks developed for the document literacy scale would be on average easier than the prose tasks. In turn, because the NAEP reading exercises are multiple choice while the prose literacy comprehension tasks require a constructed response, we expected the NAEP exercises to be relatively easier than the prose literacy comprehension tasks. We were unsure about the relative average difficulty of the quantitative literacy tasks. To examine the within-group patterns of performance across the four scales, we have elected to use weighted average percent correct for major subgroups of particular interest.

Table 4.1 shows a consistent pattern of results across the four scales for the total group and for each of the major subgroups investigated. Average percent correct in using documents is highest, as was expected, for all subgroups examined. In fact, for the total population, average percent correct on the document scale reached 83.3%. The NAEP reading comprehension exercises were consistently easier (74.1% for the total group) than were the fifteen prose comprehension tasks specifically developed for this young adult assessment (67.5% for the total group). However, it should be noted that comparisons of performance on these two scales is confounded by the fact that the NAEP reading exercises are multiple-choice while the prose comprehension tasks require constructed responses. The most difficult set of tasks were those involving quantitative computations embedded within literacy tasks (65.0% for the total group).

Table 4.1

Average Weighted Percent Correct for Each of the Literacy Scales by Various Subgroups of Interest

	NAEP* Reading (12 Tasks)	Prose* Literacy (15 Tasks)	Document* Literacy (63 Tasks)	Quantitative* Literacy (15 Tasks)
Sex				
Male	74.0 (1.2)	67.0 (1.0)	83.2 (0.6)	65.1 (1.3)
Female	74.1 (1.0)	67.9 (0.8)	83.5 (0.4)	64.8 (1.0)
Race/Ethnicity				
White	78.0 (0.8)	71.1 (0.8)	85.9 (0.4)	68.9 (0.9)
Black	54.5 (1.2)	51.3 (1.3)	71.8 (0.9)	45.8 (2.1)
Hispanic	67.5 (3.3)	59.8 (2.2)	77.6 (1.1)	57.8 (2.8)
Education				
Less than high school	43.2 (2.6)	34.1 (3.6)	60.7 (4.7)	37.2 (6.6)
Some high school	57.9 (1.5)	50.6 (1.9)	71.7 (1.2)	46.3 (2.9)
Graduated high school +	70.6 (1.1)	64.2 (0.9)	81.9 (0.5)	63.2 (0.9)
College degree +	86.2 (0.8)	79.1 (0.8)	90.4 (0.4)	75.6 (0.9)
Region				
Northeast	76.0 (1.4)	68.7 (1.1)	84.8 (0.5)	65.9 (1.2)
Southeast	68.0 (1.6)	61.8 (1.4)	79.9 (1.0)	61.5 (2.1)
Central	76.7 (1.9)	68.5 (1.3)	84.3 (0.8)	66.2 (1.7)
West	75.6 (2.2)	70.6 (2.0)	84.5 (1.0)	66.1 (2.1)
TOTAL	74.1 (0.9)	67.5 (0.8)	83.3 (0.4)	65.0 (0.9)

*Numbers in parentheses indicate jackknifed standard errors.

Note: The numbers presented in this table are weighted percents correct for tasks within each of the scales. Each task was completed by between 1,400 and 1,600 nationally representative respondents.

While the main effects reveal interesting and consistent patterns of performance in the expected direction, the weighted average percents correct are entirely a function of the particular sets of exercises aggregated onto each of the scales and, thus, pose serious problems for meaningful interpretations. One technique that obviates the difficulty associated with interpreting average percents correct is item response theory (IRT) methodology. A major benefit of IRT analyses is that a common scale is constructed on which performance can be compared across groups and subgroups, independent of the particular tasks contributing to the scale (Lord, 1980, Lord & Novick, 1968). This means that the proficiency level of a particular subgroup may be estimated from any given subset of exercises and that exercises may be added or retired from the assessment at a given point in time without affecting comparability of results. This particular benefit of IRT scaling allows for comparisons among groups and subgroups across time as well as age levels. For example, in addition to comparing young adults to in-school 17-year olds on the NAEP reading scale, in future studies of literacy, young adults can be compared on the literacy scales with other groups of particular interest such as older dislocated workers, prison inmates, and military personnel.

Differences Within Scales

While the use of average percents correct provides one means for looking at main effects across the three literacy scales, average percents correct leave unresolved the problems associated not only with the particular sets of tasks used in an assessment but also with the lack of a common point of reference across scales. Therefore, not only were IRT scales developed for each type of literacy, but the total group means for each scale were set equal to the total group performance on the NAEP reading scale -- that is, 305.

While this procedure eliminates the main effects across scales, as noted by Jensen (1980) and Feldman (1973), it maintains the within group differences -- or, the relative ranking of subgroups within each of the three literacy scales.

Demographic Subgroups

Table 4.2 presents the means and standard errors for each of the three literacy scales (jackknifed, see NAEP Technical Report, 1986) separately by sex, race/ethnicity, region of the country, education level of the respondents, parental education, and occupational status as well as for the total group of English-speaking sample who passed the core. The data for race/ethnicity, education level, and the total group are presented along with description of specific tasks at various levels of the scale in Figures 4.1 through 4.3.

Sex and region of the country. Inspection of Table 4.2 shows that there are no significant differences between the average performance of males and females on any one of the three literacy scales. Moreover, the average performance of young adults in Northeast, Central, and West regions of the country exhibit no significant differences, although the mean performance in the Southeast is significantly below each of the other three regions on each of the three scales.

Race/ethnicity. Race/ethnicity has a notable relationship with the average performance for this population of young adults on each of the three scales. Each of these scales has a mean of 305 and a standard deviation of roughly 50 points. Consistent with other studies of achievement (Rock, Ekstrom, Goertz, & Pollack, 1985; Sum, Harrington, Goedicke, 1986), these data show Blacks to be, on average, about one standard deviation below the performance levels of Whites and approximately half a standard deviation below the performance levels of Hispanics on each of the three scales.

Table 4.2

Weighted Average Proficiency Scores on Each of the Three Literacy Scales by Various Subgroups in the Young Adult Population

	N	Weighted N	Prose		Document		Quantitative	
Sex								
Male	1,544	10,054,793	305.6	(2.6)	305.3	(2.6)	304.9	(2.8)
Female	1,930	10,665,671	304.5	(2.1)	304.8	(1.9)	305.1	(2.3)
Race/Ethnicity								
White	1,997	16,018,109	314.4	(1.9)	315.7	(1.9)	314.6	(2.2)
Black	957	2,693,192	258.3	(2.4)	255.7	(2.8)	259.1	(2.3)
Hispanic	391	1,264,984	285.5	(4.5)	278.7	(4.4)	280.3	(5.0)
Region								
Northeast	679	4,448,158	311.1	(2.9)	309.2	(2.5)	309.1	(4.1)
Southeast	897	5,140,778	289.8	(5.9)	291.4	(4.4)	290.6	(3.6)
Central	800	5,364,920	309.3	(3.8)	309.7	(3.7)	311.7	(3.9)
West	1,098	5,766,608	309.9	(4.4)	309.5	(4.5)	308.5	(4.2)
Education Level								
Less than high school	77	374,926	237.4	(11.0)	225.3	(11.9)	234.9	(10.4)
Some high school	618	2,769,840	262.9	(4.0)	256.3	(3.9)	261.2	(3.5)
High school graduate and/or some postsecondary	1,718	9,999,954	295.3	(2.0)	295.5	(1.9)	295.8	(2.2)
Postsecondary degree	1,058	7,565,453	336.8	(1.9)	339.4	(1.9)	336.8	(2.3)
Parental Education								
Less than high school	343	1,317,365	269.7	(6.1)	266.3	(6.4)	269.3	(5.2)
Some high school	409	2,017,638	276.7	(3.7)	277.9	(2.5)	280.2	(4.0)
High school graduate and/or some postsecondary	1,458	9,433,779	305.5	(2.3)	305.4	(2.2)	304.1	(1.7)
Postsecondary degree	962	6,626,004	329.5	(2.4)	330.0	(2.7)	329.8	(3.3)
12-Month Employment Status								
Full-time, all year	1,474	9,571,878	303.3	(2.5)	302.5	(2.0)	301.7	(2.4)
Part-time, all year	479	2,816,437	320.8	(3.6)	325.3	(3.9)	323.0	(4.1)
Full-time, part year	619	3,703,890	307.5	(3.8)	309.8	(3.3)	309.8	(3.4)
Part-time, part year	275	1,761,586	313.7	(6.1)	311.4	(4.7)	311.4	(4.8)
Unemployed	117	402,744	255.6	(9.4)	245.5	(6.5)	258.3	(7.2)
In school	161	851,851	313.6	(5.8)	313.8	(6.3)	320.5	(6.8)
Keeping house	301	1,432,789	279.5	(4.8)	275.7	(4.8)	277.5	(5.7)
TOTAL								
English /Passed Core	3,474	20,720,464	305.0	(2.0)	305.0	(1.9)	305.0	(2.1)

It is important to note that the gaps between White, Black, and Hispanic young adults do not imply that minority group members score only at the lower levels on each of the literacy scales. In fact, roughly 20 percent of Black and approximately 35 percent of Hispanic young adults are estimated to be at or above the average proficiency level (305) on each of the scales. Moreover, some social scientists have argued that the gaps in socioeconomic status (SES) between, for example, White and Black populations appear to be more reflective of class than race differences per se. As an instance, data from High School and Beyond indicate that Black and Hispanic students are overrepresented in the low socioeconomic status group, which includes approximately 54 percent of Black and 57 percent of Hispanic high school seniors. The large deficits in academic skills found among high school seniors from low-SES backgrounds are consistently one standard deviation below the average scores of those students from high-SES backgrounds (Sum, Harrington, & Goediche, 1986).

Level of education. Young adults' educational attainment as categorized and reported in this assessment is shown to have a strong and positive relationship with performance on each of the three literacy scales (Table 4.2). Moreover, each succeeding category of educational attainment is not only related to significantly higher performance, but the magnitude of the difference increases as well. For example, this is typified by performance on the prose comprehension scale: Average performance for individuals with some high school is approximately half a standard deviation (25.5 points) above the performance of those young adults who completed eight years or less of formal schooling -- it should be noted that of those who received the simulation tasks, slightly less than two percent (1.8) reported receiving eight or fewer years of education. In turn, those reporting completion of 12 years of schooling and/or some post high school experience (e.g., vocational or trade school) performed roughly two-thirds (32 points) of a standard deviation above those completing only some high school. As these young adults report receiving a post secondary school degree (e.g., two-year, four-year, or post-graduate degree), their performance approaches a full standard deviation (84% or 42 points) above that of those completing high school and/or some post secondary coursework. At the extreme, young adults who report receiving two-year, four-year, or post-graduate training perform two full standard deviations (or about 100 points) above the level reached by those reporting eight or fewer years of education.

Given that an estimated two-hundred fifty billion dollars are expended annually for education in this country, it would be gratifying to interpret these differences in literacy proficiencies as a sole result of the decision by some students to continue their education, independent of other factors. Unfortunately, these data do not permit this interpretation. While there is a strong relationship between literacy and educational attainment, it must be understood that reported education level serves as a proxy for other explanatory variables. For example, as an alternative hypothesis, it may be the case that those individuals with higher literacy proficiencies tend to stay in school longer. In addition, other variables such as motivation, parental expectations, and economic status may contribute to explaining the variance noted above.

As expected, parental education, too, has a significant effect on young adults' level of performance across the literacy scales. Increasing levels of education again is associated with higher average performance on each of the scales. However, unlike respondent's education, the effect of parental education does not increase in magnitude with increasing reported level. Again, the prose literacy scale will serve as an example. As provided in

Table 4.2, the average performance of respondents whose parents had some high school experience is not quite one-fifth of a standard deviation (or only seven points) above that of respondents whose parents did not advance past the eighth grade. Those respondents whose parents have completed a high school diploma and/or some postsecondary experience performed on average about one-half a standard deviation (57% or 29 points) above those respondents whose parents who have only some high school experience. The magnitude of the difference in average performance for respondents whose parents have a postsecondary degree as compared with high school and/or some postsecondary experience remains at about one-half (48% or 24 points) a standard deviation. This is in contrast to respondent's education in which the difference in average performance between those reporting a postsecondary degree and those reporting a high school diploma and/or some postsecondary experience approaches a full standard deviation. Also, while differences between the lowest and highest levels of respondent education aggregated in Table 4.2 are approximately two-full standard deviations, those between similarly aggregated levels of parental education are only about one standard deviation.

Employment status. Unemployed persons are estimated to have the lowest proficiency on each of the literacy scales. Their performance is approximately a full standard deviation below the total group mean of 305 -- 256 on Prose, 246 on Document, and 258 on Quantitative. Performing significantly better on each of the scales, although still below the total group mean, are persons who reported staying at home to keep house (Prose, 280; Document 276; and Quantitative, 278). Persons who report working either full time during part of the year, or full-time for all of the year perform at about the level of the total group mean on each scale. It is particularly interesting to note that these young adults who report working full-time at least for part of the year perform about a full standard deviation above those who report being unemployed and about half a standard deviation above the average proficiency of those staying at home to keep house. On average, the highest proficiency scores on the three scales are those for respondents reporting either working part-time or in school during the past 12 months. It should be noted here that the reported employment status of young adults in the age range from 21 to 25 years is highly confounded with reported educational attainment.

While the group means displayed in Table 4.2 reveal interesting patterns of performance within the three scales, they say little about the shape of the distribution, or the percentage of people within particular groups that are estimated to be at or above various points along the scales. Figures 4.1 through 4.3 show the percentages of various subpopulations at or above successive points along with examples of various tasks as they relate to these points.

Levels of Proficiency

In the preceding section, major demographic variables were used to describe the average performance of young adults on each of the three literacy scales. This section focuses on the levels of performance within each of the scales for the total group as well as for subgroups by race/ethnicity and respondents' education level. The intent here is to examine the percentages of the various groups performing at or above specified points on each of the scales. In addition, these levels of performance are presented and discussed as they relate to the anchoring process. First, however, a discussion is presented to facilitate proper interpretations of performance at various scale points.

Caveat to interpreting levels of proficiency. Figures 4.1 through 4.3 depict the percentages of various groups in the total 21- to 25-year old population estimated to be at or above successive points on each of the three literacy scales. Successful performance was determined to be that point on the item characteristic curve (ICC) at which an individual has an 80% probability of correct response to a given task or 80% of the people respond to the task correctly. Therefore, population estimates at specified points along each scale represent an 80% probability criterion. Use of this criterion does not imply that individuals scoring below a given level will be unable to respond correctly to any task above his/her estimated level of proficiency. Table 4.3 provides data that is used to instantiate this point (see also Table 10, Appendix B). Column 2 of Table 4.3 gives the NAEP identification number of tasks as they appear in Appendix B and on the public use data tape.

Table 4.3

Selected Document Tasks, Average Percent Correct,
and Probabilities of Success for Various Levels of Proficiency

RP80*	NAEP ID	Item Probabilities						Average % Correct	Percent of Total Pop. at or Above
		150	200	250	300	350	400		
196	AB 70104	63	**81**	92	96	99	99	96.3	200 = 95.5%
226	Core #4	59	74	**85**	92	96	98	90.6	225 = 91.0%
300	AB 70107	9	25	54	**80**	93	98	79.5	300 = 57.2%
343	N007101	30	38	51	67	**82**	91	69.3	350 = 20.2%

*Designates that point on the scale at which individuals with that level of proficiency have an 80% probability of responding correctly.

The last line in Table 4.3 provides information about a task at the 343 level on the document scale. This particular task required the reader to use a bus schedule. Although only 20.2% of the population is estimated to be at or above the 350 level, the average percent correct on this task is 69.3. The point to be made is that the percentage of people estimated to be at a specified point along a scale is not the same as the percentage of the population that is estimated to successfully complete that particular task at the corresponding level. What appears to be a contradiction results from the fact that individuals at other levels of proficiency have varying probabilities of correctly responding to a given task. In this example persons estimated at the 250 level have a 50-50 chance of responding correctly to this task involving a bus schedule. Persons at the 300 level have a 67% probability for success, while those at the 150 level have a 30% chance of responding correctly to this 343 task. Thus, average percent correct reflects the cumulative effect of the probabilities of success, while the estimated proficiency score is based on an 80% probability criterion.

Similarly, someone estimated at the 250 level has varying probabilities of responding correctly to more difficult tasks. For example, a person with an estimated proficiency score of 250 has a 85% probability of correctly responding to the task at the 226 level -- e.g., identifying the correct dosage from a box containing packaged medicine. This same individual would have only a 54% probability of getting a 300 level task correct -- following directions to get from one location on a map to another. Thus, interpretation of these assessment results must be tempered by the fact that the reported levels of difficulty and proficiency both reflect a given level of probability.

Prose comprehension proficiency. Referring back to the anchoring of the prose scale (Table 3.1), the 15 tasks on this scale appear to reflect three qualitatively different aspects of reading comprehension: matching of literal or corresponding information, producing and interpreting text information, and generating a theme or organizing principle from text information. Each of these three aspects forms a continuum, with overlap among the three sets of tasks. Figure 4.1 presents the percentages of people and selected tasks at successive points on the Prose scale. Estimates of percentages of the various groups falling at the 150 and 175 level are given (Figure 4.1) even though no corresponding tasks were part of the assessment. This occurrence reflects the fact that, in theory, there are prose comprehension tasks that could be developed for future assessments that would capture these lower levels of proficiency. However, the data in Figure 4.1 indicate that such tasks would not discriminate among performance for many subgroups of particular interest.

Ninety-six percent of the English-speaking population are estimated to be at or above the 200 level on the prose scale. Tasks estimated to be at about this level on the scale include writing a simple description of the type of job one would like and accurately locating a single piece of information (single-feature match) from a newspaper article of moderate length. Only among the group reporting less than eight years of formal education does the percentage of people estimated to be at or above the 200 level fall markedly below ninety. For this group, 71% are estimated to be at or above the 200 level, whereas 88% of those reporting some high school and 86% of Blacks attain this level. These two tasks represent the easiest levels of those involving matching and producing text.

Figure 4.1 - Percentages of People and Selected Tasks At or Above Successive Points on the Prose Scale*

Selected Tasks at Decreasing Levels of Difficulty**	Selected Points on the Scale	Total	Race/Ethnicity			Levels of Education			
			White	Black	Hispanic	0-8 Years	9-12 Years No Diploma	H.S. Graduate and/or Postsec.	2- or 4-Yr. Deg. or More
397-Identify appropriate information in lengthy newspaper column	500								
387-Generate unfamiliar theme from short poem	375	8.8 (0.7)	10.8 (0.9)	0.7 (0.3)	3.3 (1.1)	0.0 (0.0)	1.8 (1.1)	3.2 (0.8)	19.4 (1.5)
371-Orally interpret distinctions between two types of employee benefits 361-Select inappropriate title based on interpretation of news article	350	21.1 (1.1)	24.9 (1.3)	3.1 (0.6)	12.0 (3.2)	0.0 (0.0)	3.8 (1.5)	12.2 (1.3)	40.3 (2.0)
340-State in writing argument made in lengthy newspaper column 339-Orally interpret a lengthy feature story in newspaper	325	37.1 (1.6)	42.6 (1.7)	10.5 (1.6)	23.5 (3.4)	0.0 (0.0)	9.7 (1.6)	26.6 (1.8)	62.9 (1.7)
313-Locate information in a news article	300	56.4 (1.5)	63.2 (1.4)	23.7 (1.6)	41.1 (4.1)	12.2 (9.5)	25.1 (2.8)	48.4 (1.7)	80.5 (1.3)
281-Locating information on a page of text in an almanac (3-feature) 279-Interpret instructions from an appliance warranty 278-Generate familiar theme of poem 277-Writing letter to state that an error has been made in billing	275	71.5 (1.4)	78.0 (1.3)	39.9 (1.9)	57.4 (3.2)	23.4 (8.7)	41.4 (2.7)	66.6 (1.4)	91.4 (1.0)
262-Locate information in sports article (2-feature)	250	82.7 (1.2)	88.0 (1.0)	57.5 (2.7)	72.1 (2.6)	27.0 (8.3)	58.7 (3.4)	81.4 (1.3)	96.1 (0.5)
	225	90.8 (0.7)	94.6 (0.6)	73.6 (2.3)	80.8 (2.3)	53.7 (7.7)	73.0 (2.1)	91.2 (0.9)	98.8 (0.3)
210-Locate information in sports article (1-feature) 199-Write about a job one would like	200	96.1 (0.5)	98.0 (0.4)	86.2 (1.5)	93.8 (1.5)	71.2 (8.7)	88.1 (1.9)	96.7 (0.6)	99.6 (0.2)
	175	98.5 (0.2)	99.4 (0.2)	94.1 (0.9)	96.6 (1.2)	91.8 (3.1)	93.5 (1.1)	99.0 (0.2)	99.9 (0.1)
	150	99.7 (0.1)	100.0 (0.0)	97.7 (0.5)	99.8 (0.2)	97.1 (1.4)	98.7 (0.4)	99.7 (0.1)	100.0 (0.0)
	0								

*Numbers in parentheses are estimated standard errors.

**Number indicating difficulty level designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

At about the 275 level, examples can be found of each of the three aspects of prose comprehension that were identified. For example, at the 281 level the reader is required to locate and match information from a page of text in an almanac on the basis of three features stated in a directive. At approximately the same level, the reader is required to produce a letter stating that an error has been made in a department store bill (277) and to interpret the instructions from an appliance warranty in order to select the most appropriate description of a malfunction (280). Also at this level, we find the first example of a task requiring the reader to generate a theme from text. In this task, a poem contains numerous allusions to a familiar theme -- war. Some 72% of the total English-speaking population attain this or higher levels (275) of prose comprehension proficiency. It is at this level that proficiency scores differ markedly for various subgroups. For example, Blacks (39.9%) and Hispanics (57.4%) as well as those who report completing some high school (41.4%) or 0 to 8 years of education (23.4%) are substantially lower than are Whites (78.0%) and those who report earning a postsecondary school degree (91.4%). Among those who have earned a high school diploma or have reported some postsecondary school experience, 66.6% reach or surpass the 275 level.

The most difficult tasks representing each aspect of prose comprehension exceed the 375 level. Such tasks reflect a three-feature corresponding match, interpretation of two types of employee job-related benefits, and the generation of the theme in a brief poem involving a single, unfamiliar metaphor. While more than 50% of this total population are at or above the 300 level, it is interesting to note that only 9% reach or surpass the 375 level of proficiency. The drop is even more alarming for those reporting a postsecondary school degree -- from 80.5% at or above the 300 level to only 19.4% at or above the 375 level.

Document proficiency. While nearly everyone in the total population can sign his or her name on the appropriate line of a social security card, for example, over 98% of this population are estimated to perform tasks typically at or about the 175 level (Figure 4.2). These include: locating the expiration date on a driver's license; finding the time of a meeting on a form; and, accurately entering a caller's telephone number on a phone message form. It is interesting to note that 99% of persons who have at least earned a high school diploma are estimated to be at or above this level. In addition, approximately 75% of those reporting eight years or less education are estimated to be at or above this level. Referring back to Table 3.2, tasks at this level require the reader to match information on the basis of a single feature using a document with only one exemplar or distractor.

In Chapter III, increasing levels of difficulty on this document scale were associated with the number of features the reader is required to match, the level of correspondence between information stated in the question or directive and the information in the document, and the number of exemplars in the document serving as distractors. As indicated in Figure 4.2, the 200 level is an interesting case in point. That is, tasks bracketing this 200 level represent successive single feature matching in documents with a single distractor. For example, the reader is required to match items on a grocery list to a set of food coupons to determine which of the items may be purchased at a discount. Approximately 98% of Whites, 92% of Hispanics, and 82% of Blacks are estimated to be at or above this 200 level. Similarly, almost all people reporting a postsecondary degree (99.4%) reach or surpass this level while 84% of those reporting some high school (9-12 years of education) attain this or higher levels. The percentage of people who are estimated to

Figure 4.2 - Percentages of People and Selected Tasks At or Above Successive Points on the Document Scale*

Selected Tasks at Decreasing Levels of Difficulty**	Selected Points on the Scale	Total	Race/Ethnicity			Levels of Education			
			White	Black	Hispanic	0-8 Years	9-12 Years No Diploma	H.S. Graduate and/or Postsec.	2- or 4-Yr. Deg. or More
	500								
	375	8.8 (0.8)	10.5 (1.0)	0.9 (0.4)	3.2 (1.6)	0.0 (0.0)	0.0 (0.0)	2.6 (0.5)	20.7 (1.4)
365 343 334 Use bus schedule to select appropriate bus for given departures & arrivals	350	20.2 (1.3)	24.3 (1.6)	2.5 (0.5)	6.7 (2.0)	0.7 (0.7)	0.8 (0.5)	10.9 (1.3)	40.7 (1.9)
	325	37.6 (1.6)	44.0 (1.8)	9.0 (1.1)	20.8 (3.1)	0.7 (0.7)	7.5 (1.4)	28.0 (1.7)	63.2 (1.8)
320-Use sandpaper chart to locate appropriate grade given specifications									
300-Follow directions to travel from one location to another using a map	300	57.2 (1.7)	65.4 (1.7)	19.8 (1.5)	37.0 (4.1)	11.0 (9.6)	22.0 (2.9)	50.2 (2.1)	81.8 (1.5)
294-Identify information from graph depicting source of energy and year									
278-Use index from an almanac	275	73.1 (1.2)	80.8 (1.1)	38.7 (2.6)	54.7 (3.8)	21.1 (12.4)	39.5 (3.6)	70.6 (1.5)	91.4 (1.0)
262-Locate eligibility from table of employee benefits									
257-Locate gross pay-to-date on pay stub									
255-Complete a check given information on a bill									
253-Complete an address on order form	250	83.8 (1.0)	89.9 (0.8)	55.5 (2.7)	69.0 (3.4)	31.5 (10.7)	59.1 (3.9)	83.4 (1.2)	96.0 (0.7)
249-Locate intersection on street map									
	225	91.0 (0.8)	95.0 (0.7)	71.0 (2.2)	84.4 (1.6)	47.3 (9.5)	72.0 (3.3)	91.8 (0.8)	98.9 (0.3)
221-Enter date on a deposit slip									
219-Identify cost of theatre trip from notice									
211-Match items on shopping list to coupons	200	95.5 (0.5)	97.9 (0.5)	82.3 (1.7)	91.5 (1.2)	61.8 (7.7)	84.0 (2.7)	96.9 (0.5)	99.4 (0.2)
196-Enter personal information on job application									
192-Locate movie in TV listing in newspaper									
181-Enter caller's number on phone message form	175	98.4 (0.3)	99.3 (0.3)	93.2 (1.2)	96.5 (0.7)	75.7 (6.3)	94.2 (1.2)	99.2 (0.2)	99.9 (0.0)
169-Locate time of meeting on a form									
160-Locate expiration date on driver's license	150	99.7 (0.1)	99.9 (0.1)	98.6 (0.4)	99.1 (0.3)	96.7 (2.7)	98.8 (0.3)	99.8 (0.1)	100.0 (0.0)
110-Sign your name	0								

*Numbers in parentheses are estimated standard errors.

**Number indicating difficulty level designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

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perform tasks successfully at succeeding levels of difficulty above 200 decreases notably. This decrease is accelerated for Blacks, Hispanics, and groups reporting less than a high school diploma.

The 300 level is characterized by tasks requiring the reader to either match on three features with documents containing several exemplars or to do successive two-feature matching. The former is represented by a task at the 294 level involving the use of a graph which shows historical trends for consumption of various types of energy in the United States. An example of the latter is a task (300) which requires the reader to perform four — successive two-feature matches. This task requires the reader to follow directions to travel from one location to another using a map.

Approximately 65% of Whites, 20% of Blacks, and 37% of Hispanics are estimated to be at or above the 300 level. With respect to education, 82% of people reporting a postsecondary degree are estimated to perform at or above this level. The percentage of people performing at this level drops precipitously with decreasing levels of education. Only 50% of those with a high school diploma and/or some post high school experience are estimated to perform successfully at or above the 300 level, while only 22% of those with some high school and 11% of those with less than high school experience are estimated to attain this or higher levels.

Above the 300 level, tasks on the document scale involve matching on increasing numbers of features using tables and charts that contain increased numbers of possible distractors. Approximately 24% of Whites, 3% of Blacks, and 7% of Hispanics typically are estimated to attain or surpass the 350 level. Interestingly, 41% of young adults who report receiving a postsecondary degree attain the 350 level, while less than 1% of those who have not completed secondary school reach or exceed this level.

Quantitative proficiency. Proficiency on the quantitative scale seems to be a function of the type of numerical operation required, the number of operations needed, and the degree to which the quantitative task is embedded in printed material. Success at around the 225 level is dependent, for example, on adding two entries on a bank deposit slip. About 92% of the total population is estimated to perform at or above this level. However, for three groups -- Blacks, those with 0 to 8 years of education, and those with some high school -- roughly one-quarter to one-third do not attain this level of proficiency. Again, although tasks representing lower levels of proficiency were not included in the assessment, it was possible to estimate the percentage of groups in the population that would attain or surpass these levels (150, 175, and 200). These estimates are included in Figure 4.3.

Between the 275 and 300 levels, tasks not only require respondents to perform a single numerical operation such as addition or subtraction, but also to transfer information accurately onto a form. For example, a set of tasks bounded by the 275 and 300 levels required respondents both to enter and to calculate a running checkbook balance. As a set, between 72.2 and 56.0 percent of the total population are estimated to attain or surpass these levels, respectively. As with the prose scale, it is at about the 275 level that we observe a sharp drop in the performance of particular groups. For example, while roughly 80% of Whites and 90% of persons reporting postsecondary degrees are estimated to be at or above this level (275), less than 40% of Blacks (39.3%), those reporting eight years or less of school (28.4%) and those reporting some high school (38.8%) achieve or surpass the 275 level. Approximately 60% of Hispanics perform at or above 275.

Figure 4.3 - Percentages of People and Selected Tasks At or Above Successive Points on the Quantitative Scale*

Selected Tasks at Decreasing Levels of Difficulty**	Selected Points on the Scale	Total	Race/Ethnicity			Levels of Education			
			White	Black	Hispanic	0-8 Years	9-12 Years No Diploma	H.S. Graduate and/or Postsec.	2- or 4-Yr. Deg. or More
	500								
489-Determine amount of interest charges from loan ad	375	9.5 (0.9)	11.5 (1.0)	0.8 (0.4)	3.8 (1.7)	0.0 (0.0)	0.4 (0.4)	4.5 (0.7)	20.0 (1.7)
376-Estimate cost using grocery unit-price labels 371-Calculate & total costs based on item costs from catalogue 356-Determine tip given percentage of bill	350	22.5 (1.4)	27.2 (1.7)	2.4 (0.8)	11.3 (2.7)	4.4 (4.0)	2.3 (0.8)	13.4 (1.3)	42.9 (2.3)
340-Plan travel arrangements for meeting using flight schedule 337-Determine correct change using menu	325	37.8 (1.6)	44.4 (1.7)	8.3 (1.6)	19.9 (3.5)	4.4 (4.0)	9.5 (1.6)	29.7 (2.0)	60.7 (2.1)
	300	56.0 (1.4)	63.3 (1.5)	22.0 (2.1)	36.9 (4.4)	8.5 (4.5)	20.9 (2.7)	49.4 (1.9)	79.8 (1.6)
293 289 281 281 } Enter & calculate checkbook balance	275	72.2 (1.1)	78.8 (1.1)	39.3 (1.9)	57.9 (3.8)	28.4 (7.6)	38.8 (2.7)	68.8 (1.4)	91.0 (1.2)
	250	84.7 (1.0)	89.4 (0.9)	60.4 (2.5)	74.6 (3.0)	48.2 (12.3)	61.5 (3.2)	83.0 (1.1)	97.4 (0.7)
233-Total bank deposit entry	225	92.4 (0.6)	95.5 (0.6)	75.4 (1.5)	87.3 (1.8)	69.4 (8.8)	74.0 (2.3)	93.1 (0.7)	99.5 (0.2)
	200	96.4 (0.4)	98.0 (0.4)	87.4 (1.5)	93.1 (1.3)	81.5 (5.9)	85.9 (2.0)	97.2 (0.5)	99.8 (0.1)
	175	98.6 (0.2)	99.2 (0.2)	94.8 (0.9)	97.7 (0.6)	91.5 (2.9)	94.3 (1.2)	99.0 (0.2)	99.9 (0.0)
	150	99.6 (0.1)	99.8 (0.1)	98.3 (0.5)	99.6 (0.3)	96.0 (2.1)	98.3 (0.6)	99.9 (0.1)	100.0 (0.0)
	0								

*Numbers in parentheses are estimated standard errors.

**Number indicating difficulty level designates that point on the scale at which individuals with that level of proficiency have an 80 percent probability of responding correctly.

As we move to tasks that are both embedded in print and require successive numerical operations (addition followed by subtraction) we approximate the 350 level on this scale. For example, a task at 340 requires the reader to select a flight from a schedule that will assure timely arrival for a meeting, given particular estimates of delays and travel time from the airport. Another task at about this level requires the reader to calculate the cost of a meal from a menu and then to calculate the correct change for the bill. Just slightly more difficult (356) is a task in which the reader is required to calculate a given percentage tip for the meal. While we might expect, as a result of performance at lower levels on the scale, that these tasks would be proportionately more difficult for those groups reporting less than a high school diploma and for minority group members, it is disturbing that only about 13% of high school graduates including those with some postsecondary coursework and only 43% of those reporting two-year degrees or more are estimated to be at or above the 350 level. It should also be noted that only some 20% of persons with a postsecondary degree reach or surpass the 375 level of proficiency.

Distributions of Tasks on the Literacy Scales

Although Figures 4.1 through 4.3 show the percentage of groups attaining various points along the scales as well as selected tasks around these points, the figures do not necessarily give accurate information about the relative number of tasks on the scales falling at or below specified points. Table 4.4 provides additional information regarding the distribution of these tasks on the three scales allowing for comparisons to be made not only within a scale but across the three scales as well. These latter comparisons permit another look at main effects.

As can be seen from Table 4.4, the distribution of document tasks is positively skewed. In fact, 73% of these tasks fall at or below the 300 level and 57% of the total population is estimated to be at or above the 300 level on the document scale. This distribution is in marked contrast to the results for the prose comprehension and quantitative proficiency scales, where the distributions are negatively skewed. Here we see that only 47% of the tasks on each scale fall at or below the 300 level. That is, the majority of the tasks on the document scale are at or one below the 300 level while for both the prose and quantitative scales the majority of tasks are above the 300 level. Referring back to Table 4.1, it will be recalled that the weighted average percents correct for the three scales differ markedly. The data aggregated as in Table 4.3 provide further support for the notion that a single scale cannot adequately capture the broad diversity of literacy tasks encountered in society.

Table 4.4

Cumulative Number and Percentage of Tasks
Falling At or Below Selected Points on Each of
Three Literacy Scales

	PROSE		DOCUMENT		QUANTITATIVE	
	N	%	N	%	N	%
AT OR BELOW 200	1	7	9	14	0	0
225	2	13	15	24	0	0
250	2	13	15	35	1	7
275	3	20	36	57	2	13
300	7	47	46	73	7	47
325	8	53	48	76	8	53
350	10	67	58	92	11	73
>350	15	100	63	100	15	100

Summary and Conclusions

From the outset, the intention was to profile literacy skills of young adults aged 21 to 25 years. The recognized problem associated with the meaningful interpretation of patterns or profiles of performance of various groups across diverse scales was addressed by examining main effects in terms of the weighted mean percent correct for tasks aggregated within each of the scales. While examination of weighted mean percents correct allows profiles to emerge for various subgroups of interest, the mean weighted percents correct are entirely a function of the particular sets of tasks comprising each of the scales. Through the use of IRT, a common scale is constructed on which performance can be meaningfully compared across groups independent of the particular tasks contributing to the scale. To aid interpretation, the means for the total population on each scale were set at 305 -- the average level of performance for the population on the NAEP reading scale.

The results of the young adult assessment indicate that the overwhelming majority of the 21- to 25-year olds perform successfully at the lower proficiency levels on each scale. For example, at least 95% of the total population is estimated to have attained the 200 level on each of the three scales (see Figures 4.1 through 4.3). While it is encouraging that 56% of the young adult population performs at or above the 300 level, it is disturbing that roughly only 20% perform at or above the 350 level and only 9% perform at or above the 375 level. Discussions of total group performance, while interesting, often mask some important and illuminating group differences.

For example, Whites surpass minority groups beginning with the 200 level. The differences that show up by race/ethnicity are, of course, confounded by other variables, such as the prevalence of poverty and early dropouts among minority groups. The data indicate the extent to which these differences increase in magnitude with successive levels on each of the scales. Over 95% of Whites, 90% of Hispanics, and 82% of Blacks are at or above the 200 level. By the 275 level, the percentage of Whites decreases to 78, while for Hispanics the corresponding percentage is roughly 57 and that for Blacks is approximately 39 on each scale. When we look at the 350 level, the percentages drop for all groups, but the magnitude of group differences increases: roughly 25% of Whites, approximately 10% of Hispanics, and just under 3% of Blacks attain this or higher levels.

As with group differences described for race/ethnicity, the patterns for various levels of education increase in magnitude at successive levels on the literacy scales. However, across the scales there is less consistency particularly for persons reporting 8 or less years of schooling. For example, on the document scale, 62% reporting 8 or less years of education, 84% with some high school, 97% with a high school diploma and/or some postsecondary experience, and 99% with a postsecondary degree perform at or above the 200 level. In contrast, on the quantitative scale, 82% of those reporting 0 to 8 years of education are estimated to be at or above the 200 level while 71% are estimated to be at or above this same level on the prose scale. The percentages of people in each of the other educational groups are approximately the same across the scales -- 84%, 97%, and 99%. At the 275 level the discrepancy between groups reporting varying levels of education becomes more pronounced on each of the scales. While roughly 91% of those with a postsecondary degree attain or exceed the 275 level, approximately 68% with a high school diploma and/or some postsecondary experience, about 40% with some high school, and less than 30% with 0 to 8 years of schooling achieve this or higher levels. Even more dramatic is the decline in the percentages of people who perform at the 350 level. Here approximately 40%

with a postsecondary degree are estimated to be at or above the 350 level while only about 12% of those with a high school degree and/or some postsecondary experience, less than 4% with some high school, and less than 1% with 8 or fewer years of education achieve this or higher levels.

As discussed earlier, one way to examine profiles across the scales is to compare groups of interest on the basis of weighted mean percents correct. We also compared the relative percent of tasks falling at or below specified proficiency levels on each of the three scales. It is interesting to note that 47% of the tasks fall at or below the 300 level on both the prose and quantitative scales. This is in contrast to the document scale, where 73% of the tasks fall at or below the 300 level. However, in spite of the fact that both the prose and quantitative scales are negatively skewed, 13% of the prose tasks and none of the tasks on the quantitative scale fall at or below the 225 level.

In sum, three distinct scales were identified that reflect three important aspects of literacy -- prose comprehension, document, and quantitative. In describing performance on these scales, it was noted that task difficulty was associated with varying combinations of task characteristics. In addition, the contribution of these characteristics to task difficulty varied across the scales. While it is disturbing that relatively small percentages of this population achieved levels of proficiency reflecting the more challenging tasks in this assessment, it is reassuring to find that the overwhelming majority of young adults do perform accurately on a large percentage of the tasks falling at the lower proficiency levels.

In view of these data, it is difficult to conclude that a large percentage of America's young adults are truly illiterate. On the other hand, it is also difficult to conclude that there are not significant literacy problems within this population. Thus, the question of literacy in America should be couched not solely in terms of the number of illiterates in the population but, in addition, in terms reflecting the varying nature and levels of literacy skills demonstrated. Focusing attention in this way is more likely to lead to the development and implementation of programs that are most likely to benefit groups exhibiting a broad range of literacy skills.

A question that remains unanswered is whether the achieved levels of proficiency described here are sufficient to meet the increasingly diverse literacy demands found in our society. The answer to this question requires the setting of standards that go beyond the scope and intent of this assessment. However, in future studies, we should reject the setting of arbitrary standards that do not reflect the complexity and diversity of literacy processes and, therefore, do not enhance our understanding of the nature of literacy in American society.

CHAPTER V

COMPARING YOUNG ADULTS WITH IN-SCHOOL POPULATIONS

A major goal of this study was to link the performance of young adults to that of students participating in NAEP. Thus, a representative set of exercises from the 1983-84 NAEP reading scale was included in the assessment of young adults, allowing us to estimate the distributions of various young adult populations on the NAEP reading scale.

The Reading Report Card (NAEP, 1985) reported the proficiencies of 9-, 13-, and in-school 17-year olds based on a nationally representative sample of some 70,000 students. With very few exceptions, the exercises included in the NAEP reading assessment were multiple-choice and similar in content and length to traditional tests of reading achievement.

To enhance the interpretability of results, 228 of the more than 300 reading exercises administered were scaled across the three ages using IRT methodology. As has been previously described (Chapter III), the scale was designed to range between 0 and 500 with a mean of 250 and a standard deviation of 50. The estimated mean reading proficiency for the in-school population at ages 9, 13, and 17 in 1983-84 are 213.2, 257.8, and 288.2, respectively. The results from the NAEP anchoring process yielded descriptions of performance at each of five levels reproduced below.

NAEP's Five Levels of Reading Proficiency

RUDIMENTARY (150)

Readers who have acquired rudimentary reading skills and strategies can follow brief written directions. They can also select words, phrases, or sentences to describe a simple picture and can interpret simple written clues to identify a common object. Performance at this level suggests the ability to carry out simple, discrete reading tasks.

BASIC (200)

Readers who have learned basic reading comprehension skills and strategies can locate and identify facts from simple informational paragraphs, stories, and news articles. In addition, they can combine ideas and make inferences based on short, uncomplicated passages. Performance at this level suggests the ability to understand specific or sequentially related information.

INTERMEDIATE (250)

Readers with the ability to use intermediate skills and strategies can search for, locate, and organize the information they find in relatively lengthy passages and can recognize paraphrases of what they have read. They can also make inferences and reach generalizations about main ideas and author's purpose from passages dealing with literature, science, and social studies. Performance at this level suggests the ability to search for specific information, interrelate ideas, and make generalizations.

ADEPT (300)

Readers with adept reading comprehension skills and strategies can understand complicated literary and informational passages, including materials about topics they study at school. They can also analyze and integrate less familiar material and provide reactions to and explanations of the text as a whole. Performance at this level suggests the ability to find, understand, summarize, and explain relatively complicated information.

ADVANCED (350)

Readers who use advanced reading skills and strategies can extend and restructure the ideas presented in specialized and complex texts. Examples include scientific materials, literary essays, historical documents, and materials similar to those found in professional and technical working environments. They are also able to understand the links between ideas even when those links are not explicitly stated and to make appropriate generalizations even when the texts lack clear introductions or explanations. Performance at this level suggests the ability to synthesize and learn from specialized reading materials.

Describing Young Adults on the NAEP Reading Scale

The entries in Table 5.1 are the weighted mean proficiency scores for various groups of young adults on the NAEP reading scale. It will be remembered that the mean proficiency for the total population is 305 on this scale, which corresponds to the "adept" category of reading defined above.

As with performance on the literacy scales, no significant differences emerge between males and females. Similarly, with the exception of the Southeast no differences emerge on average for regions of the country. However, Whites surpass the performance of Blacks by about a full standard deviation -- 313.8 versus 263.3, respectively. In turn, Whites surpass the performance of Hispanics by approximately one-half a standard deviation -- 313.8 versus 286.6, while Hispanics surpass Blacks by roughly the same margin -- 286.6 versus 263.3, respectively.

Table 5.1

Weighted Mean Performance of Various Groups of Young Adults on the NAEP Reading Proficiency Scale

	N	Weighted N	NAEP Reading Proficiency
Sex			
Male	1,544	(10,054,793)	304.6 (2.3)*
Female	1,930	(10,665,671)	305.4 (2.3)
Race/Ethnicity			
White	1,997	16,018,109	313.8 (2.0)
Black	957	2,693,192	263.3 (2.4)
Hispanic	391	1,264,984	286.6 (4.7)
Region			
Northeast	697	4,448,158	310.8 (3.6)
Southeast	897	5,140,778	291.7 (3.1)
Central	800	5,364,920	307.4 (3.8)
West	1,098	5,766,608	310.2 (4.6)
Respondent Education			
Less than high school (0-8 years)	77	374,926	234.7 (8.3)
Some high school (9-11)	618	2,769,840	262.7 (3.5)
High school diploma/ some postsecondary	1,718	9,999,954	296.3 (1.7)
2 yr., 4 yr. degree or more	1,058	7,565,453	335.6 (2.8)
Parental Education			
Less than high school (0-8) years)	343	1,317,365	263.3 (6.5)
Some high school (9-11)	409	2,017,638	272.9 (3.6)
High school diploma/ some postsecondary	1,458	9,433,779	304.7 (1.6)
2 yr., 4 yr. degree or more	962	6,266,004	326.7 (3.6)

*Numbers in parentheses indicate jackknifed standard errors.

As with race/ethnicity, respondent's education as categorized in this study is closely associated with mean proficiency on the NAEP reading scale. The magnitude of the mean levels of proficiency increase along with specified levels of education. For example, the difference between persons reporting 0 to 8 years of education and those reporting some high school is about one-half a standard deviation. The mean difference between those reporting some high school and those reporting a high school diploma and/or some postsecondary experience increases to about two-thirds of a standard deviation. Those reporting a postsecondary degree exceed the performance of those with a high school diploma and/or some postsecondary experience by roughly four-fifths of a standard deviation. The magnitude of the difference between the lowest and the highest levels of education aggregated in Table 5.1 is about two full standard deviations. This pattern is similar to those noted on each of the three literacy scales (Chapter IV). Again, although it is tempting to attribute the performance differences noted solely to educational attainment, it _must_ be recognized that level of education undoubtedly serves as a proxy for other variables with explanatory power.

Similar to respondent's education, parental education has a strong relationship with mean proficiency on the NAEP reading scale. Again, as was noted on the literacy scales (Chapter III), the effect of parental education does _not_ increase in magnitude at the succeeding aggregated levels reported. The largest average gain (31.8) occurs between parents who had some high school experience and those who graduated and/or had some postsecondary experience. This difference is approximately three-fifths of a standard deviation. The difference between those who graduated and/or had some postsecondary experience and those with a postsecondary degree is slightly less, 22 points on average or just under one-half a standard deviation.

Young Adults and In-school 17-year Olds

In addition to examining the average levels of performance of young adults on the NAEP scale, one question posed for the assessment concerned the comparison of young adults and in-school 17-year olds at each of the five specified levels of proficiency on the NAEP scale. For each of the subgroup comparisons shown in Table 5.2, the percentages of individuals at or above each of the three lower levels of proficiency (150, 200, 250) are remarkably similar. However, it is important to recognize that there is a striking increase in the percentage of young adults achieving at the two highest levels of proficiency (300, 350) as compared to the in-school 17-year olds. For the total young adult population, 54.4% attain or surpass the 300 or Adept level as compared with about 39.2% of the 17-year olds. At the 350 or Advanced level, the difference is even more pronounced -- more than five times the percentage of young adults (20.9%) as 17-year olds (4.9%) exhibit advanced reading skills and strategies. This pattern is relatively consistent across each of the three racial/ethnic groups presented in Table 5.2, but it should be noted that fewer Black young adults attain the Basic and Intermediate levels as compared with Black 17-year old students.

Comparing Young Adults to Three Grade Levels

While it is useful to compare young adults with the performance of in-school 17-year olds, normative comparisons in the literature are more typically provided in terms of reading grade level scores. Starting with the 1983-84 assessment, NAEP data were collected not only by age but by grade level as well (grades 4, 8, and 11), thus allowing for summarizing the performance of the average 9-, 13-, and 17-year old (regardless of grade placement) and the average performance of 4th-, 8th-, and 11th-graders (regardless of age). It should be noted, that 8th graders were assessed in

Table 5.2

Comparisons of Young Adults with In-School 17-Year-Olds on the NAEP Scale At or Above Each of the Five Levels of Proficiency for Total and Racial/Ethnic Groups

		Total		Ethnicity/Race					
				White		Black		Hispanic	
		Adult	17-Year-Olds	Adult	17-Year-Olds	Adult	17-Year-Olds	Adult	17-Year-Olds
Advanced	- 350	20.9 (1.4)*	4.9 (0.2)	24.5 (1.6)	5.8 (0.2)	3.9 (0.9)	0.8 (0.2)	9.5 (1.7)	1.5 (0.3)**
Adept	- 300	54.4 (1.6)	39.2 (0.8)	60.7 (1.6)	45.1 (0.8)	24.9 (2.4)	15.5 (1.0)	40.6 (2.9)	19.9 (1.8)**
Intermediate	- 250	84.1 (0.7)	83.6 (0.7)	88.7 (0.6)	88.9 (0.5)	61.1 (2.0)	65.8 (1.2)	76.0 (2.7)	69.1 (1.7)**
Basic	- 200	96.8 (0.4)	98.6 (0.1)	98.2 (0.5)	99.2 (0.1)	89.9 (1.2)	96.5 (0.3)	95.9 (1.0)	96.8 (0.4)**
Rudimentary	- 150	99.6 (0.2)	100.0 (0.0)	99.7 (0.1)	100.0 (0.0)	98.8 (0.4)	100.0 (0.0)	99.5 (0.4)	100.0 (0.0)**

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*Numbers in parentheses are estimated standard errors.
**These standard errors could not be estimated precisely.

the fall of 1983, while 4th graders were assessed in the winter of 1984, and 11th graders were assessed near the end of the school year. Table 5.3 gives the estimated percent of young adults (total, by level of education, and by race/ethnicity) in relation to the average reading proficiency score of 4th, 8th, and 11th graders.

It is, of course, reassuring to note that about 94% of the total population of young adults read at or above the reading level of the average 4th grader and that roughly 80% of this population reach or exceed the 8th grade level of proficiency. Perhaps most comforting is the fact that around 60% of the young adults read as well as or better than the typical 11th grader participating in the NAEP assessment.

The news is not all good, however. While the differences in performance between males and females are trivial, those between the racial/ethnic groups and levels of educational attainment are of concern. For example, about 96% of White young adults are estimated to read at or above the level of the average fourth grader; however, approximately 92% of Hispanic, and only about 82% of Black young adults are estimated to have attained or exceeded this roughly Basic level. At about the level of the average eighth grader, there are 85% of White young adults as compared with 71% of Hispanic and only 53% of Black young adults. By grade 11, the percentages for White, Hispanic, and Black young adults drop to approximately 68, 52, and 31, respectively. Nevertheless, there is evidence from NAEP in-school assessments (The Reading Report Card) that the reading proficiencies of minority students are increasing at a faster rate than those of their White majority peers.

Table 5.3

Percentages of Young Adult Populations At or Above
Average Reading Proficiency of Fourth, Eighth, and Eleventh Graders
on the NAEP Scale*

NAEP Average Reading Proficiencies at 3 Grade Levels	Total	Level of Education				Race/Ethnicity		
		0-8 yrs.	9-12, No Diploma	H.S. Diploma Some Postsecondary	Postsecondary Degree	White	Black	Hispanic
Grade 11 289.3 (0.8)	61.5	15.1	27.4	55.9	83.3	67.6	31.0	52.3
Grade 8 260.7 (0.5)	79.8	37.0	53.6	77.9	95.6	85.0	53.0	70.9
Grade 4 217.5 (0.7)	94.0	73.3	76.1	94.7	99.6	96.2	82.2	92.4

*The percents given in this table were estimated based on average NAEP scores at or above 218, 260 and 290. These are rounded from means shown in column 1 of the table.

The relationship between education and reading achievement is also revealed in Table 5.3 by the percentages of young adults who have attained various levels of education. For example, while 76% of young adults with some high school experience reach or surpass the reading level of the average fourth grader, roughly 54% and 27% reach or surpass the average eighth or eleventh grader, respectively. In contrast, for those young adults who have earned postsecondary school degrees, virtually all reach or surpass the performance of the average fourth grader, and approximately 96% and 83% reach or surpass the average performance of eighth and eleventh graders, respectively.

While we typically make comparisons of reading achievement on the basis of average performance for students at particular grade levels, caution must be exercised in comparing the performance of adults to that of in-school students. This caution stems from two concerns. One, literacy goes beyond traditional measures of reading comprehension to include information-processing skills and strategies associated with a broad range of tasks not usually represented on typical standardized tests of reading achievement. This is also true for the NAEP reading scale which focuses on school-based reading tasks. This fact is in part demonstrated by the moderate degree of association found between performance on the NAEP scale and performance on the prose, document, and quantitative scales (the correlations are .58, .61, and .58, respectively).

Second, grade-level results represent the average performance of students functioning within a particular school context and, thus, reflect much more than simply reading achievement. Interpretation of adult performance on the school-based NAEP scale should be quite different: Just as a fourth grader scoring at an eleventh-grade level on a test of reading achievement is very different from a tenth- or eleventh-grade student scoring at this level, so is an adult scoring at an eighth-grade level very different from a seventh- or eighth-grader demonstrating this level of reading achievement.

Conclusions

The results reported here linking the young adults to performance on the NAEP reading scale reinforce the conclusions reached in Chapter IV. Specifically, the fact that about 80% of the total young adult population is estimated to read at or above the 8th grade level and, in addition, nearly two-thirds reach or surpass the 11th grade level, make it difficult to understand any claims that serve to characterize young Americans as "illiterate." While it is true that disproportionately fewer percentages of Blacks and Hispanics attain these levels of proficiency, at least half to two-thirds approach or surpass the 8th grade level, respectively. It should be remembered that the Intermediate level on the NAEP scale represents the level of performance of the average 8th grader and that proficiency at this level involves the ability to search for specific information, interrelate ideas, and make generalizations.

These findings take on increased importance due to the projections of changing patterns of demograhics for the young adult population. Within the next decade, it is expected that the total number of young adults aged 21 through 25 will shrink from around 21 million to roughly 17 million and be comprised of increasing proportions of minorities. If these population estimates are accurate, and no steps are taken to resolve the discrepancies in performance, colleges and universities along with business and the military will be selecting from a population having more limited literacy skills than today.

As was stated in the Conclusions to Chapter IV, this study and the findings linking young adults to the in-school population leave unanswered the question as to whether the eighth grade, eleventh grade, or even higher levels of reading and literacy are sufficient for functioning in our society. The question remains unanswered because, to date, we do not have sufficient information from which to make statements regarding the levels of literacy required for functioning in particular jobs or social programs in our society.

What is clear, however, is that literacy is a currency not only in our schools, but in our society as well; and, as with money, it is better to have more literacy skill than less. This is particularly true as our nation's economy is shifting. In Chapters III and IV the argument was made for the importance of gaining a better understanding of the processes of literacy and the characteristics of tasks associated with successful performance. In addition, we should seek to gain a better understanding of how these levels of proficiency relate to the literacy requirements of various social programs and employment opportunities.

CHAPTER VI

CHARACTERIZING YOUNG ADULTS

> You send your child to the schoolmaster, but 'tis the schoolboys who educate him. You send him to the Latin class, but much of his tuition comes, on his way to school, from the shop windows.
>
> --Emerson

A considerable amount of data were collected during the 30-minute background interview to provide personal information not only to characterize the group of 21- to 25-year olds in this country but also to provide data that would have possible explanatory power in relation to the achieved literacy proficiencies for this population. The raw data are available both on a public use data tape and in the form of summary printouts*. In this chapter, we have elected to approach the characterization of young adults using as a framework the three variables -- race/ethnicity, parental education, and respondent's education -- that were shown in Chapter IV to be highly associated with performance on the literacy scales. Where appropriate, these three variables will be discussed in relation to early experiences of the respondents, their educational attainment, and their current activities. Specifically, this chapter will characterize young adults in terms of:

- Early Experiences
    - Years Lived in the United States
    - Educational Attainment Outside the United States
    - Use of Non-English Language in the Home
    - Age at Which English Was Learned
    - Literacy Materials in the Home
    - Levels of Parental Education

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*For additional information, contact National Assessment of Educational Progress, CN 6710, Princeton, N.J. 08541-6710.

- Educational Attainment
  - Young Adults' Levels of Education
  - Reasons for Not Completing High School
  - Studying for and Completing the GED
- Current Activities
  - School Enrollment Status and Aspirations
  - Educational Aspirations
  - Employment Status
  - Current Literacy Activities

Early Experiences

Years Lived in the United States

Of the 3,474 English-speaking young adults who passed the core, 312 reported that they were born outside of the United States. For this group, Table 6.1 presents the distributions of years lived in the United States. Thirty-five percent of the subgroup who reported being born outside the U.S. were Hispanics. It will be seen from Table 6.1 that more than 60% of these Hispanics report living in the U.S. for eleven or more years while only 20%

Table 6.1

Distributions of Years Lived in the U.S. by
Race/Ethnicity for Those Reporting Being Born Outside the U.S.

	N	Weighted N	Percent of Total*	0-5	6-10	11-19	20+
Subtotal	312	1,442,474	7.0	33.7 (6.7)	17.2 (3.4)	26.5 (4.5)	22.5 (3.1)
White	71	483,405	3.0	25.7 (6.8)	7.9 (3.6)	31.3 (8.3)	35.2 (6.7)
Black	37	102,293	3.8	45.6 (8.0)	19.5 (4.9)	28.9 (5.2)	6.0 (4.3)
Hispanic	130	444,429	35.1	19.8 (4.6)	17.4 (3.8)	40.9 (6.0)	21.8 (6.3)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

report living in the U.S. for five years or less. Similarly, over 60% of the Whites, who make up about one-third of this subgroup of young adults born outside the U.S., report living in the country for eleven or more years. In contrast, it is interesting to note that while Blacks comprise only 7% of this subgroup, nearly 46% of these Black respondents report living in this country five or fewer years. While it is helpful to look at the distributions of years lived in the U.S., it is perhaps more important for the purposes of this assessment to examine the amount of education completed outside the U.S.

Educational Attainment Outside the United States

Of the respondents who were born outside the U.S. (corresponding to a weighted N of 1,442,474), 71% (or 1,030,411) reported completing some education prior to coming to the U.S. (Table 6.2). It should be noted that, while only two and three percent of the total sample of Whites and Blacks, respectively, obtained some of their education before coming to this country, nearly one-quarter of the Hispanic sample report some formal schooling prior to coming to the U.S. Moreover, the three racial/ethnic groups differ not only in the percentages who received some education outside the U.S. but also in the levels of education they report prior to coming to this country. For example, more than 50% of the Hispanics report attending school from K through

Table 6.2

Distributions of Educational Attainment Outside the U.S.
by Race/Ethnicity for Those Reporting Being Born Outside the U.S.

	N	Weighted N	Percent of Total*	K-3	4-8	9-12	Voc.	Coll./Univ.
Subtotal	227	1,030,411	5.0	17.3 (4.3)	16.6 (3.8)	49.3 (5.2)	2.7 (1.4)	14.1 (3.9)
White	40	288,500	1.8	21.1 (8.5)	12.1 (6.7)	54.8 (10.2)	0.0 (0.0)	12.0 (4.2)
Black	31	90,159	3.3	17.7 (9.0)	16.7 (4.6)	48.0 (8.1)	1.8 (1.9)	15.8 (11.8)
Hispanic	91	303,247	24.0	32.7 (7.5)	21.3 (3.9)	32.3 (5.8)	8.6 (4.2)	5.1 (2.1)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

grade 8 while only about 33% of the Whites and Blacks came to the U.S. before beginning secondary school. For these Whites and Blacks, approximately 50% report some secondary education and 12% to 16% report some college or university training prior to coming to the U.S. In contrast, only about 33% of the group of Hispanics report some high school and only 5% report some college or university experience prior to entering the U.S. On the other hand, nearly 9% of the Hispanics report receiving some vocational training as compared with about 2% of Blacks and no Whites.

Use of Non-English Language in the Home

Another important characteristic bearing on literacy skills is the influence of a language other than English spoken in the home. Data were collected specifying those members of the household who spoke a language other than English and on the age at which the respondent learned to speak English. It will be seen from Table 6.3 that 15% of the total young adult population are estimated to have grown up in households where a language other than English was spoken. Among racial/ethnic groups, 78% of Hispanics, 5% of Blacks, and 10% of Whites are estimated to have come from such homes. In addition, for each racial/ethnic group, the predominant speakers of a non-English language were the parents of the respondents. Following parents,

Table 6.3

Percentages of Persons in the Household Usually Speaking
a Language Other than English in the Home

	N	Weighted N	Percent Of Total*	Father	Mother	Sibling	Relative	Non-Relative	Respondent
Subtotal	663	3,167,650	15.3	70.4 (4.4)	79.3 (2.8)	40.8 (3.4)	46.0 (3.2)	16.7 (1.7)	29.5 (3.1)
White	201	1,525,186	9.5	61.5 (7.3)	70.5 (5.2)	16.4 (3.0)	40.6 (4.1)	10.7 (2.3)	15.9 (3.8)
Black	46	138,671	5.1	73.2 (15.1)	72.2 (14.6)	62.5 (21.8)	60.3 (16.6)	20.0 (8.6)	42.3 (7.4)
Hispanic	320	983,115	77.7	76.9 (5.6)	88.0 (2.5)	57.9 (4.5)	45.0 (3.9)	21.1 (3.5)	36.4 (4.2)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

the next most frequent speakers of a non-English language were other relatives living in the home, and then siblings. It is particularly interesting that, of the total sample reporting a non-English language being spoken in the home, only about 30% of the respondents reported usually speaking this non-English language while growing up. The percentages vary from 16% for Whites to 36% for Hispanics to 42% for Blacks. These data reveal, among other things, that the simple reporting of the fact that a language other than English was spoken in the home is insufficient information from which to judge the predominant language spoken by the respondent.

Age at Which English Was Learned

Table 6.4 shows the distributions of ages at which foreign-language speaking respondents reported learning to speak English. Roughly 10% of the total population reported learning to speak a language other than English before starting school. Around 70% of Blacks and Whites reported learning to speak English before the age of five. In contrast, only about 42% of

Table 6.4

Distributions of Age at Which Respondent Reported Learning to Speak English by Race/Ethnicity and Parental Education

	N	Weighted N	Percent of Total*	1-4 Years	5-10 Years	11-15 Years	16-20 Years	21+
Race/Ethnicity								
White	123	748,890	4.7	69.2 (6.0)	19.9 (5.1)	8.7 (2.3)	0.9 (0.6)	1.3 (1.2)
Black	28	94,176	3.5	76.6 (12.4)	16.9 (10.2)	2.4 (2.2)	2.6 (2.3)	1.5 (1.4)
Hispanic	276	828,968	65.5	42.1 (4.0)	39.7 (3.1)	6.9 (1.3)	11.1 (2.7)	0.3 (0.3)
Parental Education								
Less than high school	131	443,614	33.7	31.5 (6.8)	47.6 (6.2)	12.8 (2.9)	8.1 (2.6)	0.0 (0.0)
Some high school	68	201,130	10.0	41.6 (6.4)	37.1 (5.3)	5.5 (3.3)	15.1 (6.8)	0.7 (0.7)
High school graduate and/or some postsecondary	171	770,617	8.2	55.0 (6.9)	28.0 (6.0)	8.2 (2.5)	8.6 (4.4)	0.3 (0.3)
Postsecondary degree	120	641,233	9.7	62.4 (4.8)	17.8 (3.8)	14.3 (3.7)	4.0 (1.5)	1.5 (1.5)
Subtotal	513	2,120,758	10.2	50.9 (3.7)	29.8 (2.7)	10.9 (1.4)	7.7 (2.0)	0.6 (0.5)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Hispanics reported learning to speak English by the age of five while nearly 40% more learned English between the ages of five and ten. Thus over 80% of Hispanics and over 90% of Blacks and Whites learned to speak English by the age of ten. There also seems to be an interesting relationship between age of learning English and parental education -- significantly more respondents who reported learning English before the age of five had parents with some post high school education as compared with parents who did not complete high school.

Literacy Materials in the Home

An additional characteristic of the respondent's home environment that might be expected to relate to levels of literacy proficiency is the number of literacy materials in the home. Respondents were asked which of six materials they had in their home while they were in high school. Included in the list were: a daily or weekly newspaper; magazines; more than 25 books; an encyclopedia; a dictionary; and a personal computer. A composite was formed by summing the "yes" responses to each of these materials. The means and standard deviations by racial/ethnic groups, respondent's educational attainment, and level of parental education are shown in Table 6.5.

The data in Table 6.5 reveal that while there is a tendency for respondent's education and parental education to be related to literacy materials in the home, none of the differences attains statistical significance. Furthermore, there are no significant differences among the three racial/ethnic groups. It will be seen that the standard deviations for the means reported are relatively large, indicating considerably more variability within a group than between groups. These data also suggest that, on average, these groups had roughly equal access to a common set of basic literacy materials.

Table 6.5

Number of Literacy Materials in the Home by Race/Ethnicity, Educational Attainment, and Parental Education

	N	Weighted N	$\overline{X}$	S.D.
Race/Ethnicity				
White	1,995	16,002,095	4.7	(0.7)
Black	957	2,693,189	4.5	(0.9)
Hispanic	391	1,265,002	4.3	(1.2)
Educational Attainment				
Less than high school	70	335,000	3.5	(1.7)
Some high school	503	2,161,000	4.2	(1.1)
High school graduate and/or some postsecondary	1,766	10,249,000	4.6	(0.7)
Postsecondary degree	1,000	7,201,000	4.9	(0.5)
Parental Education				
Less than high school	312	1,253,000	4.0	(1.1)
Some high school	454	2,227,000	4.3	(1.0)
High school graduate and/or some postsecondary	1,472	9,372,000	4.7	(0.7)
Postsecondary degree	928	6,432,000	4.9	(0.5)
Total	3,345	19,976,285	4.6	(0.8)

Levels of Parental Education

Reported level of parental education also seems to be related more generally to early experiences of the respondent by functioning as an effective home support variable. From this perspective, it is interesting to explore the relationship between parental education and racial/ethnic group membership (Table 6.6). With the exception of 0 to 8 years of education, Blacks and Hispanics differ from Whites but not from each other in terms of reported levels of parental education. On average, Whites report parents who had attained higher levels of education than either Blacks or Hispanics. For example, roughly 35% of Whites report parents who attained a postsecondary degree as compared with some 16% and 19% for Blacks and Hispanics, respectively. At the lowest level of parental education (0 to 8 years), all three groups differ from each other -- Whites report the fewest number of parents having this level of education (3%), followed by Blacks (10%) and Hispanics (22%). It should be noted, however, that relatively high percentages of Blacks and Hispanics report "I Don't Know" in response to the question about level of parental education (21% and 14%, respectively).

Table 6.6

Levels of Parental Education by Race/Ethnicity

	N	Weighted N	Less than H.S. (0-8 years)	Some H.S. (9-12 years)	H.S. Graduate and/or Some Postsecondary	Postsecondary Degree (2 year, 4 year, +)	I Don't Know
Total	3,466	20,693,043	5.7 (0.7)	9.5 (0.8)	45.1 (1.9)	31.8 (2.2)	7.9 (0.7)
White	1,996	16,011,990	3.4 (0.6)	8.4 (0.9)	47.7 (2.3)	35.4 (2.3)	5.2 (0.6)
Black	953	2,680,880	9.6 (2.2)	15.3 (1.7)	38.7 (1.8)	15.8 (1.8)	20.7 (1.7)
Hispanic	388	1,255,994	22.0 (3.2)	11.5 (2.1)	32.7 (2.7)	19.3 (3.0)	14.4 (4.0)

Educational Attainment

Young Adults' Levels of Education

On average, Whites attain higher levels of education than either Blacks or Hispanics. Table 6.7 shows the distributions of educational attainment for each of the three racial/ethnic groups. For example, it will be seen that nearly twice as many Whites report receiving a postsecondary degree than is the case for either Blacks or Hispanics. On the other hand, a significantly higher percent of Blacks and Hispanics end their formal education before receiving a high school diploma than do Whites. Moreover, more than twice the percentage of Hispanics than Whites or Blacks report attaining only eight or fewer years of education. As might be expected, level of parental education is positively related to respondent's level of education, but on average, the respondents whose parents have less than a high school diploma tend to have completed more formal schooling than did their parents.

Table 6.7

Respondents' Reported Levels of Education
by Race/Ethnicity and Parental Education

	N	Weighted N	Less than H.S. (0-8 years)	Some H.S. (9-12 years)	H.S. Graduate and/or Some Postsecondary	Postsecondary Degree (2 year, 4 year, +)
Race/Ethnicity						
White	1,997	16,018,109	1.6 (0.4)	11.5 (1.3)	47.3 (2.2)	39.6 (2.3)
Black	957	2,693,192	1.8 (0.5)	21.7 (1.5)	55.6 (1.6)	20.6 (1.8)
Hispanic	391	1,264,984	4.9 (1.4)	19.4 (2.3)	50.4 (3.9)	25.2 (4.2)
Parental Education						
Less than high school	357	1,424,884	4.6 (1.1)	22.7 (4.0)	59.6 (4.1)	13.0 (2.8)
Some high school	488	2,399,064	5.1 (2.3)	31.8 (3.2)	54.9 (3.7)	8.1 (1.9)
High school graduate and/or some postsecondary	1,537	9,736,634	1.2 (0.4)	12.2 (1.2)	57.2 (1.9)	29.4 (2.0)
Postsecondary degree	976	6,729,077	0.6 (0.3)	3.9 (0.8)	31.5 (2.8)	64.1 (3.0)
Total	3,474	20,720,464	1.8 (0.4)	13.4 (1.1)	48.3 (1.9)	36.5 (2.1)

Reasons for Not Completing High School

While the question of educational attainment is important, it is also of interest to explore the reasons young adults give for not completing their high school education. The responses to this open-ended question were listed and then summarized into one of six categories: financial problems; going to work or into the military; pregnancy; loss of interest in school and/or had behavior problems (boredom); poor grades or academic problems; and, personal reasons such as marriage or relocation that were not necessarily school related. Table 6.8 shows the distributions of reasons for not completing high school. It is readily apparent that for Blacks the major reasons reported were pregnancy and loss of interest in school. For Whites and Hispanics the major reasons were loss of interest and personal (relocation or marriage). Interestingly, relatively few respondents report dropping out of school for poor grades and this percentage did not vary by racial/ethnic group. The finding that poor grades is not a major reason reported for dropping out of school is in contrast to other studies (Rock, Ekstrom, Goertz, & Pollack, 1985) which indicate that poor academic performance is among the best predictors of dropping out of school. The data in this assessment most probably reflect the fact that, while academic performance is important in the decision to stay in or drop out of school, young adults attribute this decision to factors other than their academic performance. Another reason for dropping out of school that does not discriminate among racial/ethnic groups is work. Across racial/ethnic groups, roughly 18% of the young adults who reported dropping out of school did so to go to work or into the military.

Table 6.8 also displays the reasons reported for dropping out of school in relation to education level. It is interesting to note that "boredom" and "personal" are again frequent reasons for dropping out of school regardless of respondent's education or level of parental education. Moreover, while racial/ethnic group membership does not distinguish among respondents who report "poor grades" as the reason they dropped out of school, level of parental education does appear to be related. Significantly more respondents whose parents did not complete high school reported dropping out of school because of poor grades than those respondents whose parents did complete or go beyond high school.

Table 6.8

Distributions of Reasons Given for Not Completing High School
by Race/Ethnicity, Educational Attainment, and Parental Education

	N	Weighted N	Percent of Total*	Finance	Work	Pregnant	Boredom	Grades	Personal
Race/Ethnicity									
White	300	2,047,289	12.8	2.1 (0.8)	18.5 (2.7)	6.5 (1.5)	39.3 (3.9)	3.3 (1.2)	29.5 (3.6)
Black	249	626,895	23.3	1.7 (0.9)	17.1 (3.3)	27.5 (6.5)	30.4 (5.2)	3.4 (0.8)	17.7 (2.0)
Hispanic	114	304,499	24.1	4.4 (2.4)	19.7 (3.8)	12.4 (4.9)	26.3 (4.5)	4.5 (2.0)	32.1 (6.6)
Educational Attainment									
Less than high school	75	369,998	98.7	4.6 (3.9)	15.0 (4.7)	8.1 (3.5)	34.5 (9.9)	0.6 (0.6)	35.6 (7.1)
Some high school	588	2,619,407	94.6	2.2 (0.7)	19.4 (2.1)	12.0 (2.2)	36.3 (3.0)	3.8 (1.0)	25.5 (2.9)
High school graduate and/or some postsecondary	11	66,172	0.7	0.0 (0.0)	0.0 (0.0)	2.4 (2.6)	61.3 (19.7)	0.0 (0.0)	25.8 (18.4)
Postsecondary degree	5	23,171	0.3	8.4 (7.0)	10.2 (11.4)	0.0 (0.0)	10.8 (9.0)	0.0 (0.0)	70.6 (19.6)
Parental Education									
Less than high school	120	383,483	29.1	5.4 (1.7)	17.9 (3.3)	7.3 (2.3)	32.0 (5.9)	3.2 (1.3)	33.7 (6.3)
Some high school	176	840,212	41.6	1.3 (0.7)	18.2 (3.9)	19.9 (5.3)	25.3 (4.8)	7.3 (2.9)	27.9 (5.2)
High school graduate and/or some postsecondary	247	1,283,843	13.6	3.2 (2.1)	21.5 (4.1)	5.8 (1.2)	37.7 (4.5)	1.6 (0.9)	29.4 (4.6)
Postsecondary degree	65	314,012	4.7	0.6 (0.6)	8.1 (3.1)	13.6 (4.7)	58.3 (7.1)	2.0 (1.6)	14.4 (4.9)
Subtotal	679	3,078,748	14.9	2.5 (0.9)	18.4 (1.8)	11.2 (2.0)	36.5 (2.9)	3.3 (0.9)	27.1 (2.4)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Studying For and Completing the GED

Table 6.9 reveals that approximately one-half of the population who reported not completing high school report studying for a GED (General Educational Development) certificate. This rate of participation holds regardless of racial/ethnic group membership. While race/ethnicity does not seem to be related to participation in a GED program, respondent's elementary and secondary education and level of parental education are related. The data in Table 6.9 with respect to education reveal the fact that while only 29% of persons with 0 to 8 years of education report studying for a GED, almost 51% of those with some high school participate in such a program. Moreover, significantly more respondents who report parents having a postsecondary degree also report studying for a GED.

Table 6.9

Young Adults Who Did Not Complete 12th Grade and Whether or Not
They Studied for GED by Race/Ethnicity,
Educational Attainment, and Parental Education

	N	Weighted N	Percent of Total*	Yes	No
Race/Ethnicity					
White	303	2,064,881	12.9	45.8 (3.9)	54.2 (3.9)
Black	251	630,555	23.4	55.7 (4.9)	44.3 (4.9)
Hispanic	116	301,855	23.9	43.3 (5.9)	56.7 (5.9)
Educational Attainment					
0-8 Years	76	371,446	--	28.9 (6.6)	71.1 (6.6)
9-12 Years No diploma	609	2,720,480	--	50.6 (3.7)	49.4 (3.7)
Parental Education					
Less than high school	124	389,065	29.5	37.3 (7.5)	62.7 (7.5)
Some high school	128	885,261	43.9	45.7 (5.0)	54.3 (5.0)
High school graduate and/or some postsecondary	249	1,279,809	13.6	46.9 (4.7)	53.1 (4.7)
Postsecondary degree	59	274,309	4.1	73.9 (7.8)	26.1 (7.8)
Total	685	3,091,926	14.9	48.0 (3.1)	52.0 (3.1)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Perhaps more important than the question of who participates in GED programs is the question of who completes them. Table 6.10 shows the relationships between completing the GED and racial/ethnic group membership, respondent's education, and level of parental education. It should be noted that the relationships in Table 6.10 are opposite to those observed among respondent's who reported studying for a GED. Neither level of parental education nor respondent's education seem to have a significant effect on whether or not a respondent completed the GED program, despite the fact that each is related to whether or not a respondent participated in such a program. In contrast, while racial/ethnic group membership appears unrelated to participation in a GED program, it is related to reported completion of a GED.

Table 6.10

Young Adults Who Reported Studying for and Receiving GED by Race/Ethnicity, Educational Attainment, and Parental Education

	Studied for GED			Received	
	N	Weighted N	Percent of Total*	Yes	No
Race/Ethnicity					
White	146	943,534	5.9	44.1 (5.5)	55.9 (5.5)
Black	136	348,542	12.9	22.5 (8.2)	77.5 (8.2)
Hispanic	49	127,386	10.1	44.9 (11.0)	55.1 (11.0)
Educational Attainment					
0-8 Years	22	107,415	28.6	33.6 (11.4)	66.4 (11.4)
9-12 Years No diploma	319	1,369,992	49.5	40.1 (4.3)	59.9 (4.3)
Parental Education					
Less than high school	48	145,213	11.0	30.2 (8.6)	69.8 (8.6)
Some high school	89	401,263	19.9	34.6 (9.6)	65.4 (9.6)
High school graduate and/or some postsecondary	133	598,434	6.3	43.6 (6.7)	56.4 (6.7)
Postsecondary degree	39	202,631	3.1	51.8 (9.2)	48.2 (9.2)
Subtotal	341	1,477,407	7.1	39.6 (4.2)	60.4 (4.2)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Table 6.10 shows that while almost half of the Whites and Hispanics report completing the GED program, only slightly more than one-fifth (22.5%) of the Blacks report attaining the certificate.

Current Activities

School Enrollment Status and Aspirations

In addition to past educational history, current educational status of this young adult population is also of concern. Thus, respondents were not only asked about their prior educational attainment, information was also

Table 6.11

Distributions of Young Adults Who Report Enrollment in School by Race/Ethnicity, Educational Attainment, and Parental Education

	Population Currently Enrolled in School				
	N	Weighted N	Percent of Total*	Full-time	Part-time
Race/Ethnicity					
White	535	4,172,390	26.0	68.7 (3.8)	31.3 (3.8)
Black	181	526,669	19.6	66.7 (5.2)	33.3 (5.2)
Hispanic	85	286,353	22.6	51.3 (8.0)	48.7 (8.0)
Educational Attainment					
Less than high school	3	54,467	14.5	9.3 (20.4)	90.7 (20.4)
Some high school	52	223,842	8.1	31.8 (10.4)	68.2 (10.4)
High school graduate and/or some postsecondary	305	1,680,323	16.8	52.3 (5.2)	47.7 (5.2)
Postsecondary degree	499	3,355,832	44.4	80.5 (3.1)	19.5 (3.1)
Parental Education					
Less than high school	54	195,669	14.9	59.5 (11.2)	40.5 (11.2)
Some high school	61	239,858	11.9	39.1 (11.5)	60.9 (11.5)
High school graduate and/or some postsecondary	351	2,108,742	22.4	62.6 (4.3)	37.4 (4.3)
Postsecondary degree	383	2,737,101	41.3	76.9 (4.0)	23.1 (4.0)
Subtotal	859	5,314,464	25.6	68.8 (3.7)	31.2 (3.7)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

obtained about current enrollment and educational aspirations. Tables 6.11 and 6.12 show data relating to these questions, respectively. It will be seen from Table 6.11 that roughly one-quarter of the total population was enrolled in school at the time of the assessment. This ranged from a low of 20% for Blacks to 23% for Hispanics to 26% for Whites. Approximately two-thirds of Blacks and Whites reported full-time enrollment as compared with approximately half of the Hispanics.

It might be anticipated that although racial/ethnic group membership did not have a significant effect on school enrollment status, both level of parental education and respondent's reported educational level would be related to current enrollment in school. Table 6.11 shows that education level affects not only whether or not respondents reported being currently enrolled, but also whether or not enrollment was on a full-time or part-time basis. For example, with respect to parental education, more than three times the percentage of respondents whose parents have a postsecondary degree (41%) report being enrolled at the time of the assessment as compared with respondents whose parents have some high school experience (12%). Between these two percentages are respondents whose parents had graduated from high school and/or had some postsecondary school experience (22%). Enrollment on a full-time or part-time basis is also related to respondent's level of education. As an instance, about 32% of the respondents with some high school experience were enrolled in school as full-time students. This number increased to 52% for those with a high school diploma and/or some postsecondary experience, and reaches almost 81% for those with a postsecondary degree. A similar relationship holds with respect to parental education with the exception of respondents who report parents having less than a high school education -- the percent of full-time enrollment increases from 39% for respondents whose parents have some high school education, to 63% for those whose parents received a high school diploma and/or have some postsecondary experience, to 77% for those whose parents went beyond the high school level.

Table 6.12

Educational Aspirations of Young Adults Currently Enrolled in School
By Race/Ethnicity, Educational Attainment, and Parental Education

	N	Weighted N	Percent of Total*	H.S. Equiv.	Trade	2 Year Degree	4 Year Degree	Master, Ph.D., etc.	Other
Race/Ethnicity									
White	542	4,215,398	26.3	2.0 (1.2)	6.7 (1.7)	13.3 (2.2)	51.0 (3.5)	17.7 (2.5)	6.8 (1.4)
Black	186	535,216	19.9	2.7 (1.2)	13.2 (2.4)	18.5 (4.0)	44.5 (4.3)	15.2 (4.0)	4.3 (1.5)
Hispanic	86	288,050	22.8	3.8 (2.5)	5.4 (2.0)	8.3 (2.9)	45.2 (9.8)	13.8 (3.6)	11.0 (3.0)
Educational Attainment									
Less than high school	3	54,467	14.5	90.7 (20.4)	9.3 (20.4)	_	_	_	_
Some high school	53	226,299	8.2	22.3 (9.4)	37.7 (10.5)	1.6 (1.2)	7.8 (4.6)	0.6 (0.6)	25.5 (9.3)
High school graduate and/or some postsecondary	310	1,702,078	17.0	0.8 (0.6)	15.3 (3.9)	37.8 (5.2)	27.2 (4.5)	5.5 (1.9)	8.6 (1.8)
Postsecondary degree	506	3,384,872	44.7	_	0.8 (0.5)	1.8 (0.8)	65.5 (3.6)	25.2 (2.8)	4.8 (1.7)
Parental Education									
Less than high school	54	195,669	14.9	4.5 (3.6)	5.4 (2.6)	24.5 (8.6)	42.8 (14.2)	9.7 (5.5)	10.9 (7.2)
Some high school	64	251,279	12.5	21.2 (14.1)	14.8 (4.6)	21.3 (8.9)	24.4 (6.3)	2.2 (1.4)	12.5 (7.5)
High school graduate and/or some postsecondary	353	2,110,516	22.4	1.2 (0.8)	10.1 (2.6)	14.3 (2.8)	50.5 (4.6)	12.7 (2.1)	7.9 (1.7)
Postsecondary degree	391	2,777,158	41.9	0.9 (0.9)	3.9 (1.6)	10.3 (3.1)	53.5 (3.7)	23.6 (3.4)	5.2 (1.6)
Subtotal	872	5,367,716	25.9	2.1 (1.0)	7.0 (1.5)	13.2 (2.1)	50.3 (3.3)	17.7 (2.4)	6.8 (1.3)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Table 6.12 indicates that from 45% to 51% of each racial/ethnic group expect to complete a 4-year degree program, while more Blacks and Whites anticipate completing an Associate degree program than do Hispanics. Nearly twice the percentage of Blacks as compared with Whites and Hispanics intend to complete vocational, trade, or business programs. Again, although to be expected, it should be noted that both parental education and respondent's level of education are related to the respondent's current educational aspirations.

Employment Status

For the population of young adults, employment status is also of interest but is inextricably confounded with the fact that many people in this age range are still engaged in the educational process. Notwithstanding this problem, data relating to employment status can be illuminating. Table 6.13 provides the distributions of the percentages of persons employed during the twelve months preceding the assessment along with the distributions for those not employed during this period. It will be seen from this table that significantly more Whites reported being employed than did Blacks. However, Whites did not differ significantly from Hispanics who in turn did not differ significantly from Blacks. Whites had the highest percentage of employment (88%) followed by Hispanics (85%) and then Blacks (80%).

The pattern of responses for those who reported not being employed during this twelve month period is somewhat different among the racial/ethnic groups. For example, while there are no significant differences among the three groups for those reporting being in school (Whites 27%, Blacks 26%, and Hispanics 19%), fewer Blacks report "keeping house" (38%) than either Hispanics (60%) or Whites (57%). In addition, the percentages of young adults who report being unemployed during the previous twelve months vary, with Blacks reporting significantly higher unemployment (30%) than either Whites (10%) or Hispanics (18%). Although the percentage of Hispanics who report being unemployed is higher than that reported by Whites, it did not reach statistical significance.

In addition to race/ethnicity, the education levels of both respondents and their parents have a significant relationship with reported employment status. Increasing rates of employment are associated with increasing levels of educational attainment -- from 67% for those with 0 to 8 years of education, to 74% for those with some high school, to 87% for those with a high school diploma and/or some postsecondary experience, to 91% for those with a postsecondary degree. In terms of parental education, the difference in rate of employment is greatest between those whose parents did not complete high school and those whose parents did. There is no significant difference for respondents whose parents completed high school and/or some postsecondary experience and those whose parents have a postsecondary degree.

Table 6.13

Reported Employment Status of Young Adults by Race/Ethnicity, Educational Attainment, and Parental Education

	Employed in Past 12 Months			Not Employed					
	N	Weighted N	Percent Saying Yes	N	Weighted N	Percent of Total*	Unemployed	In-School	Keeping House
Race/Ethnicity									
White	1,997	16,018,109	88.0 (1.0)	263	1,910,403	11.9	10.4 (2.4)	27.0 (4.1)	57.2 (4.5)
Black	957	2,693,192	79.5 (2.0)	242	546,310	20.3	30.0 (3.9)	25.9 (3.8)	38.1 (3.2)
Hispanic	391	1,264,984	84.6 (1.8)	76	193,114	15.3	18.4 (4.4)	18.7 (5.4)	59.5 (5.9)
Educational Attainment									
Less than high school	77	374,926	67.2 (6.9)	35	122,821	32.8	26.4 (9.8)	0.0 (0.0)	71.1 (10.0)
Some high school	618	2,769,840	74.3 (2.7)	201	704,299	25.4	21.6 (4.4)	5.0 (1.7)	67.7 (4.4)
High school graduate and/or some postsecondary	1,718	9,999,954	86.7 (1.2)	270	1,324,141	13.2	14.6 (3.0)	19.9 (4.3)	59.2 (4.6)
Postsecondary degree	1,058	7,565,453	90.9 (1.3)	109	683,598	9.0	3.6 (2.0)	81.0 (5.8)	12.4 (4.9)
Parental Education									
Less than high school	357	1,424,884	79.0 (3.2)	85	296,778	22.5	29.4 (7.1)	19.4 (6.1)	46.9 (8.6)
Some high school	489	2,400,960	78.4 (2.7)	131	518,619	25.7	21.3 (3.9)	10.1 (3.9)	66.2 (5.2)
High school graduate and/or some postsecondary	1,535	9,734,079	87.6 (1.3)	249	1,194,682	12.7	12.9 (2.9)	24.6 (5.0)	56.4 (4.3)
Postsecondary degree	978	6,737,472	89.2 (1.3)	115	728,219	11.0	3.0 (1.5)	60.0 (7.0)	31.6 (6.2)
Total	3,474	20,720,464	86.2 (0.9)	615	2,834,859	13.7	14.2 (2.0)	30.0 (4.3)	50.5 (3.8)

*These percentages are derived by taking the weighted N for each group and dividing by the weighted N for its total population. See Table 4.2 for the appropriate denominators.

Even more enlightening are the distributions among those respondents who report not being employed during the twelve months preceding the assessment.

Here, for example, we see that 26% of those with 0 to 8 years of education report being unemployed as compared with 22% for those with some high school, 15% for those with a diploma and/or some postsecondary experience, and only 4% for those reporting a postsecondary degree. There is a strikingly similar pattern of reported unemployment by level of parental education. It is also of some interest to note that significantly fewer respondents with postsecondary degrees report keeping house than for any of the other education levels.

Current Literacy Activities

An issue receiving increasing attention deals with the current literacy activities or practices of this young adult population. To address this issue the background questionnaire contained a series of questions concerned with the topics read in newspapers, magazines, books, and brief documents. The category of brief documents involves materials that are generally short in length and often technical. Included are such things as memos, business letters, forms, diagrams, charts, warranties, catalogs, maps, and so forth. These literacy activities are given in Appendix D beginning with question 109. For the purposes of this chapter, this information will be summarized in terms of the frequency, type, and number of materials that are reported being read and used.

Table 6.14 gives the frequencies with which this young adult population reported reading a newspaper in English. It can be seen from this table that approximately 90% of these young adults report reading a newspaper at least once a week, and only about 2% report never reading a newspaper. There do not appear to be any racial/ethnic differences in the frequency of reported newspaper reading. However, in contrast, respondent's level of education is associated with the frequency of reported newspaper reading. For example, Table 6.14 reveals that the percentage of this population who report reading a newspaper daily increases from about 24% for those with 0 to 8 years of education, to around 39% for those with some high school experience, to just about 42% for those with a high school diploma and/or some postsecondary experience to over 50% for those reporting a postsecondary degree. Moreover, the percentages of young adults who report never reading a newspaper decreases from about 13% for those with 0 to 8 years of education to just under 1% for those with a postsecondary degree. A similar pattern of relationships, though less dramatic, is seen for the various levels of parental education.

Table 6.14

Frequency of Reported Reading in Newspapers by Race/Ethnicity, Educational Attainment, and Parental Education

	Daily	Few Times a Week	Once a Week	Less Than Once a Week	Never
Race/Ethnicity					
White	44.2 (1.4)	32.0 (1.4)	13.9 (1.0)	7.9 (0.6)	1.9 (0.3)
Black	45.9 (2.1)	27.4 (1.9)	17.1 (1.7)	7.3 (1.0)	2.2 (0.6)
Hispanic	46.2 (3.8)	26.2 (3.4)	15.9 (2.0)	8.0 (1.4)	3.7 (1.0)
Educational Attainment					
Less than high school	23.9 (5.6)	20.7 (6.4)	22.4 (9.0)	19.9 (8.7)	13.2 (5.3)
Some high school	38.5 (3.2)	31.2 (2.3)	16.9 (1.9)	9.9 (1.6)	3.5 (0.9)
High school graduate and/or some postsecondary	41.5 (1.9)	30.8 (1.8)	16.2 (1.3)	9.5 (1.0)	2.0 (0.4)
Postsecondary degree	52.1 (2.2)	32.1 (2.0)	10.8 (1.3)	4.2 (0.7)	0.8 (0.3)
Parental Education					
Less than high school	29.5 (3.3)	28.4 (2.7)	21.1 (2.5)	17.3 (2.8)	3.6 (0.6)
Some high school	34.0 (2.5)	32.4 (2.6)	18.7 (2.5)	9.9 (1.9)	4.9 (1.2)
High school graduate and/or some postsecondary	45.4 (2.0)	29.8 (1.6)	15.3 (1.3)	8.1 (1.0)	1.4 (0.4)
Postsecondary degree	51.2 (2.0)	32.5 (2.2)	10.5 (1.0)	4.6 (0.7)	1.1 (0.4)
Total	44.6 (1.2)	31.0 (1.0)	14.5 (0.9)	7.8 (0.5)	2.0 (0.2)

Table 6.15

Distributions for Number of Magazines Read on a Regular Basis
by Race/Ethnicity, Educational Attainment, and Parental Education

	5+	4	3	2	1	0
Race/Ethnicity						
White	17.6 (1.2)	10.8 (0.8)	21.5 (1.2)	20.0 (1.2)	13.9 (0.9)	14.2 (1.3)
Black	17.2 (1.4)	15.2 (1.4)	21.1 (1.7)	22.3 (1.7)	9.6 (1.1)	14.5 (1.8)
Hispanic	15.6 (2.8)	9.1 (2.0)	23.4 (3.0)	19.8 (2.7)	10.8 (1.5)	21.3 (2.8)
Educational Attainment						
Less than high school	5.2 (3.8)	4.1 (2.9)	16.4 (8.9)	26.7 (9.4)	21.3 (6.2)	26.2 (5.7)
Some high school	9.2 (1.6)	10.5 (2.0)	21.2 (2.4)	22.5 (2.5)	14.6 (2.4)	22.0 (2.7)
High school graduate and/or some postsecondary	15.3 (1.2)	10.8 (1.1)	21.5 (1.4)	22.9 (1.5)	13.3 (1.1)	16.1 (1.4)
Postsecondary degree	23.1 (1.7)	12.8 (1.2)	22.5 (2.0)	19.9 (1.6)	12.0 (1.2)	9.6 (1.5)
Parental Education						
Less than high school	8.5 (2.0)	8.3 (2.1)	24.2 (3.2)	21.9 (3.2)	13.1 (1.8)	23.9 (2.[illegible])
Some high school	7.8 (1.5)	9.1 (1.4)	23.1 (2.5)	21.7 (2.5)	19.2 (2.0)	19.1 (2.5)
High school graduate and/or some postsecondary	16.3 (1.2)	11.8 (1.1)	21.7 (1.5)	21.4 (1.5)	14.1 (1.1)	14.6 (1.6)
Postsecondary degree	23.8 (2.1)	12.2 (1.2)	20.7 (1.7)	22.6 (1.8)	9.9 (1.4)	10.8 (1.5)
Total	17.2 (1.1)	11.4 (0.7)	21.7 (1.0)	21.8 (1.0)	13.2 (0.7)	14.7 (1.1)

While race/ethnicity does not seem to be associated with the frequency of reported newspaper reading, it is a factor relating to the variance in reported magazine and book reading. Table 6.15 shows the distributions of readership for magazines. While approximately 85% of the young adult population reported reading at least one magazine on a regular basis, a larger percentage of Hispanics reported not reading any magazines (21%) than either Blacks (15%) or Whites (14%). As with reported newspaper reading, respondent's level of education seems to be related to the variability in the number of magazines read on a regular basis. While almost 10% of respondents with a postsecondary degree report not reading a magazine on a regular basis, this percentage increases to 16 for those with a high school diploma and/or some postsecondary experience, and the percentage continues to rise for those reporting some high school experience and those with 0 to 8 years of education -- 22% and 26%, respectively. In contrast, the percentages of young adults reporting reading five or more magazines on a regular basis increases sharply with increasing levels of education. Again, a similar pattern of relationships is shown in Table 6.15 for levels of parental education.

Table 6.16

Percentages of Young Adults Who Reported Reading or Using a Book in the Six Months Prior to the Assessment by Race/Ethnicity, Educational Attainment, and Parental Education

	Yes	No
Race/Ethnicity		
White	85.9 (1.2)	14.1 (1.2)
Black	78.7 (2.0)	21.3 (2.0)
Hispanic	77.7 (2.0)	22.3 (2.0)
Educational Attainment		
Less than high school	62.1 (10.7)	37.9 (10.7)
Some high school	68.9 (3.2)	31.1 (3.2)
High school graduate and/or some postsecondary	80.6 (1.5)	19.4 (1.5)
Postsecondary degree	96.9 (0.7)	3.1 (0.7)
Parental Education		
Less than high school	70.7 (4.0)	29.3 (4.0)
Some high school	71.7 (2.9)	28.3 (2.9)
High school graduate and/or some postsecondary	85.3 (1.6)	14.7 (1.6)
Postsecondary degree	92.5 (1.5)	7.5 (1.5)
Total	84.6 (1.1)	15.4 (1.1)

Table 6.16 shows the percentages of young adults who report reading or using a book in the six months prior to participating in the assessment. As is the case for magazines, approximately 85% of this total population report reading or using a book. However, while only Hispanics differed from Whites and Blacks in reporting not reading any magazines, significantly fewer Blacks (79%) and Hispanics (78%) report reading or using a book than do Whites (86%).

Again, there is a strong relationship between level of respondent's education and reported book reading. Almost all young adults with a postsecondary degree (97%) report reading or using a book. This percentage decreases sharply for those with a high school diploma and/or some postsecondary experience (81%) and continues to decline for those with only some high school experience (69%) as well as for those with 0 to 8 years of education (62%). As with newspapers and magazines, reported reading of books is also shown to be associated with levels of parental education.

More specific information was gathered relating to the content read in newspapers, magazines, books, and brief documents. In newspapers, for example, 13 sections were surveyed including national/international news, state/local news, comics, advertisements, women's pages, and book and movie reviews. For magazines, respondents were asked to list up to five magazines that they read for work/school and up to five for their own enjoyment. For books, respondents were asked to indicate up to seven contents that included fiction, history, science, recreation or entertainment, religion, reference materials, and manuals. Brief documents included a list of eighteen materials. For each type of brief document, the respondents could indicate whether they read and/or wrote that type of material. These are shown in Appendix D.

Table 6.17 provides a summary of the average number of content areas read within newspapers and the average number of different magazines, books, and brief documents read. The means and standard deviations are given for the total young adult population as well as by racial/ethnic group, respondent's level of education, and level of parental education. Of particular interest is the fact that there are no differences among Whites, Blacks, and Hispanics with respect to the average number of content areas read or used in newspapers, or the average number of different magazines, books, or brief documents read or used. Even more surprising is the fact that neither respondent's level of education nor parental education level distinguished among the average number of content areas in newspapers read or used or the average number of different magazines, books or brief documents read. However, it should be noted that the trend within each category is in the expected direction but does reach reach significance in part due to the relative size of the standard deviations. In addition, and more importantly, these data do not address questions regarding the amount of time spent reading these materials or the quality of what is being read (Gray & Rogers, 1956).

Table 6.17

Average Number of Content Areas Within Newspapers, and Different Magazines, Books, and Brief Documents Read by Race/Ethnicity, Educational Attainment, and Parental Education*

	Newspapers**	Magazines**	Books**	Brief Documents**
Race/Ethnicity				
White	5.8 (3.0)	2.5 (1.6)	2.9 (2.0)	15.6 (7.7)
Black	5.6 (3.2)	2.6 (1.6)	2.3 (1.9)	12.1 (7.6)
Hispanic	5.7 (3.2)	2.4 (1.7)	2.3 (1.9)	13.8 (7.8)
Educational Attainment				
Less than high school	2.8 (3.2)	1.6 (1.3)	1.4 (1.7)	7.9 (5.9)
Some high school	4.7 (3.0)	2.0 (1.6)	1.4 (1.4)	8.8 (5.7)
High school graduate and/or some postsecondary	5.5 (3.0)	2.4 (1.6)	2.3 (1.8)	13.8 (7.1)
Postsecondary degree	6.6 (2.9)	2.9 (1.6)	4.0 (1.8)	19.0 (7.2)
Parental Education				
Less than high school	4.6 (3.4)	2.0 (1.6)	1.8 (1.6)	11.0 (7.0)
Some high school	4.8 (3.0)	2.1 (1.5)	1.9 (1.8)	11.0 (6.3)
High school graduate and/or some postsecondary	5.8 (3.1)	2.6 (1.6)	2.7 (1.9)	14.9 (7.4)
Postsecondary degree	6.3 (2.8)	2.9 (1.6)	3.6 (2.0)	18.0 (7.6)
Total	5.7 (3.1)	2.5 (1.6)	2.8 (2.0)	15.0 (7.8)

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*Figures in parentheses are standard deviations.

**Range: Newspapers - 0 to 13
Magazines - 0 to 5
Books - 0 to 7
Brief Documents - 0 to 36

Summary and Conclusions

A number of variables from the background questionnaire were discussed as they relate to young adult's early experiences, their educational attainment, and their current activities. This chapter serves to highlight variables that play important roles in the lives of young adults.

One such set of variables involves early experiences outside the United States. Typically, for the population of 21- to 25-year olds, a larger proportion of Hispanics than Blacks or Whites report being born outside of the United States. Yet these same Hispanics and their White peers tend to have been younger than their Black peers when they arrived in the United States. While Blacks comprise only 7% of the group born outside the U.S., nearly half report living in this country five or fewer years, with 35% reporting having lived in the country 11 or more years. Blacks and Whites report quite similar patterns of education prior to arrival in the U.S. -- nearly half report some secondary school education and some 15% report some college or university training prior to coming to the U.S. Since they tended to be younger when they arrived in the U.S., prior education for Hispanics is concentrated in the K through grade 8 range, but Hispanics also report receiving some vocational training while this is almost nonexistent for Blacks and Whites.

Exposure to a non-English language in the home while growing up is a factor for 15% of young adults, but particularly so for Hispanics. Nearly 80% of Hispanics as compared with only 5% and 10% of Blacks and Whites, respectively, are estimated to have been exposed to a language other than English while growing up. Nevertheless, the data indicate that simply growing up in a home in which parents or other relatives generally speak a second language is insufficient information from which to generalize the predominant language spoken by the respondent. Only 16% of Whites, 36% of Hispanics, and

42% of Blacks who grew up in a home where a language other than English was spoken report that they themselves usually spoke the non-English language in the home. Moreover, over 90% of Blacks and Whites and over 80% of Hispanics report learning English by the age of ten. Parental education level seems to be related to age of learning English -- significantly more respondents who report learning English before the age of five report parents who had completed some postsecondary education. More generally, the data reveal that, on average, Whites report parents who had attained higher levels of education than did Blacks or Hispanics. Only at the lowest reported level of parental education -- 0 to 8 years -- did Blacks differ significantly from Hispanics.

Similar to the results reported for parental education, on average, White respondents report attaining higher levels of education than do Blacks or Hispanics. Nearly twice the percentage of Whites as Blacks or Hispanics report receiving a postsecondary school degree, while a significantly higher percent of Blacks and Hispanics report terminating their formal education before graduating from high school than do Whites. Although parental education is positively related to respondent's education, those respondent's whose parents did not complete high school tend to have completed more formal education than their parents.

It was deemed important to gather data from the young adults assessed pertaining to their reasons for not completing high school. Different reasons for dropping out of high school appear salient for various groups: The major reasons for Blacks are pregnancy and loss of interest in school, while for Whites and Hispanics the major reasons reported are loss of interest in school and personal reasons such as relocation or marriage. The largest proportion of respondents who report dropping out of school had parents who had not completed high school. However, leaving high school because of poor grades or to enter the workforce did not vary as a function of racial/ethnic group membership.

Participation in and completion of a GED program is a popular extension of the formal schooling system. While racial/ethnic group membership is not related to participation in a GED program, it is a significant factor for completion of such a program: Nearly half of the Whites and Hispanics who enrolled in a GED program went on to attain an equivalency diploma as contrasted with less than one-fourth of the Blacks. A similar contrast is apparent for parental education and respondent's education: About half of the GED program participants have completed some high school while not quite 30% reported terminating school before beginning grade 9. On the other hand, grade level completed was not related to completion of the GED program. In addition, significantly more GED participants had parents with some high school education, but parental education was not related to obtaining an equivalency diploma.

One area of current activities explored in the young adult assessment involved present educational status and aspirations. Roughly one-fourth of the total population was enrolled in school at the time of the assessment and racial/ethnic group membership had no significant effect on enrollment status. In contrast, both respondent's reported level of educational attainment and reported parental education level are positively related not only to current enrollment status, but also to whether that enrollment is full-time or part-time. There is also a positive relationship between the respondent's aspirations and his or her educational attainment as well as that of parents. That is, the higher the respondent's or parent's level of education, the higher level of education the respondent expects to complete. However, there are some racial/ethnic group differences: more Blacks and Whites than Hispanics expect to complete an Associate degree program, and twice as many Blacks as Whites or Hispanics anticipate completing vocational, trade, or business programs.

Although inextricably confounded with educational status, the employment status of these young adults is also of interest. A significantly higher proportion of Whites than Blacks report being employed during the 12-month period preceding the assessment, but Hispanics do not differ significantly from either Whites or Blacks in terms of employment status. Conversely, a significantly larger percent of Blacks report being unemployed during this period than do Whites or Hispanics. Again, the education level of the respondents and of their parents is positively related to employment status.

Current activities is broadly defined in this assessment to include various literacy practices in English such as the use and reading of newspapers, magazines, books, and brief documents. Approximately 90% of the respondents report reading a newspaper once a week or more frequently, 85% report reading at least one magazine on a regular basis, and 85% report reading or using a book during the six months preceding the assessment. Although race/ethnicity does not appear to be associated with the frequency of reported newspaper reading, it is associated with the variance observed in reading magazines and books. A significantly larger percentage of Hispanics than Whites or Blacks report not reading a magazine, and a smaller percentage of Blacks and Hispanics report using or reading a book than do Whites. The effects of both respondent's education and parental education are strongly positive and remarkably similar across the media of printed material. No racial/ethnic differences are found in the more detailed data concerning the average number of categories of content read in newspapers, magazines, books, and brief documents. Nor are respondent's education or parental education shown to be significantly associated with the number of contents read or used in these media.

These descriptive results summarizing the characteristics of the young adult population 21 to 25 years of age are important -- and tantalizing in the clues they seem to provide about a large number of variables that have a rational relationship to the area of literacy. Nevertheless, the clues are incomplete and may even be misleading since these variables do not operate in isolation but rather interact in complicated ways as they relate to the area of literacy. Moreover, analyses are needed to allow for the estimation of the impact of these variables -- singly and in combination -- on estimated literacy proficiency. The following chapter presents the results of analyses designed to address this issue.

CHAPTER VII

RELATIONAL ANALYSES

Irwin Kirsch, Ann Jungeblut, and Don Rock

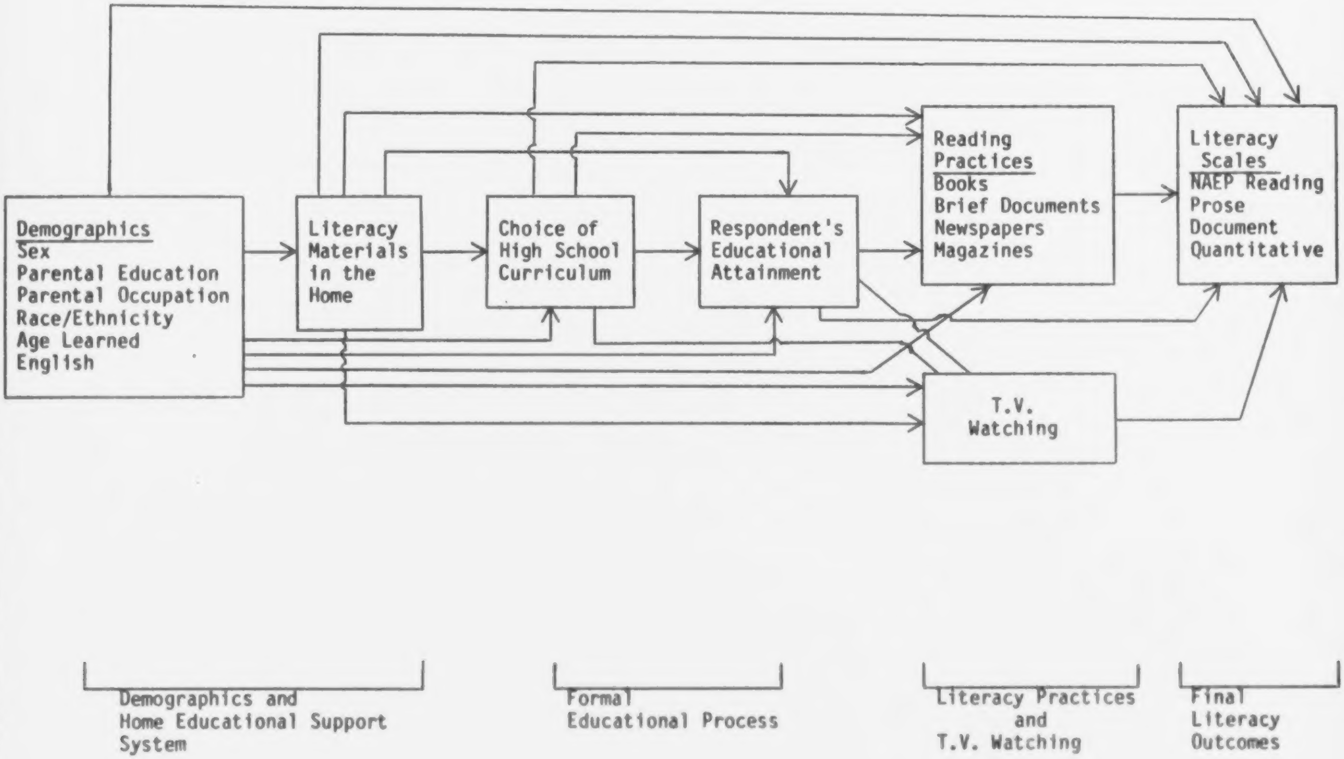
> The dear people do not know how long it takes to learn to read. I have been at it all my life and I cannot yet say I have reached the goal.
>
> --Goethe

The previous chapters are primarily descriptive in nature and allow for a minimum number of control variables to be used simultaneously. As such, interpretations have been limited to the relationship of one or two variables with a third variable of interest. While illuminating, these analyses do not capture the complexity of the relationships among a set of variables as they interact with one another. This chapter presents analyses that investigate the relationships among demographic characteristics (including home support variables), educational variables, literacy practices, and the four literacy outcome measures. These analyses are cast in a path analysis framework that allows for an ordered sequencing of regressions. The ordering necessarily follows a logical specification since the data are cross-sectional. Because of the limitation inherent in cross-sectional data, the present analyses can best be thought of as a single exercise in explanatory modeling rather than "causal" modeling.

Figure 7.1 presents the hypothesized explanatory model with the arrows indicating the expected direction of the relationships. For the most part, the logical relationships specified in the model follow a temporal sequence with respect to the background characteristics of the young adults. While achievement is typically conceived of as an outcome of home environment and schooling, we were interested in exploring the notion of literacy practices as

Figure 7.1

Hypothesized Path Model Underlying the Relational Analysis


Demographics
Sex
Parental Education
Parental Occupation
Race/Ethnicity
Age Learned English
Literacy Materials in the Home
Choice of High School Curriculum
Respondent's Educational Attainment
Reading Practices
Books
Brief Documents
Newspapers
Magazines
T.V. Watching
Literacy Scales
NAEP Reading
Prose
Document
Quantitative
Demographics and Home Educational Support System
Formal Educational Process
Literacy Practices and T.V. Watching
Final Literacy Outcomes

intermediate outcome variables also predicted by home environment and schooling. While it is recognized that there is a reciprocal relationship between literacy practices and proficiencies, the focus of these analyses was on predicting variance in performance on each of the proficiency scales and we therefore, sought to determine the extent to which literacy practices are associated with performance variability. Whites, Blacks, and Hispanics are contrasted with respect to both demographic and educational variables as well as literacy practices and measures of literacy performance. Table 7.1 provides a description of the variables used in the explanatory model.

In addition to contrasting level or mean differences between Whites and Blacks, and Hispanics and Blacks with respect to their reported literacy practices and their proficiencies on the scales, regressions were also run separately within each of the three racial/ethnic groups. In the total group, race/ethnicity was "dummy" coded such that all group comparisons in the total regressions contrasted Blacks with each of the other two racial/ethnic groups. The variables Ethnicity 1 and Ethnicity 2 used in Tables 7.1-7.13 represent the contrasts for Blacks versus Whites and Blacks versus Hispanics, respectively. The comparison of the within group regression coefficients deals with the question of whether the same explanatory model holds for each of the racial/ethnic groups. The sample sizes range from a low of 136 for Hispanics to 312 for Blacks, and 736 for Whites. The sample size for the total sample regressions was 1241. The sample sizes used in the statistical tests in the regressions are based on one-half of the smallest N obtained in each of the respective missing data variance-covariance matrices. These Ns yield conservative estimates of the t-tests and are reasonably consistent with an assumed design effect of 2.0. The standard errors associated with the "raw" score regression weights were so derived as to reflect both sampling

Table 7.1

Description of Variables Used in Relational Analysis

Sex	Males = "0", Females = "1"
Ethnicity	Two constructed variables coded such that Whites and Hispanics are each separately contrasted with Blacks. Hispanics were identified according to a response of "yes" to a question asking if they were of Spanish or Hispanic origin or descent. Whites or Blacks were individuals who reported being White or Black and not of Hispanic or Spanish origin. All others were excluded from the analyses.
Parent Education	Referred to parent with the highest educational level. There were four coded categories - "1" = Less than high school diploma, "2" = Some high school, "3" = High school diploma and/or some post-secondary experience, and "4" = Post-secondary degree.
Parent Occupation	Referred to parent with the highest occupational level. Codes ranged from 1-9 with 1 being the highest occupational level. (Reversed from original coding.)
Age Learned English	Coded on a scale of 0-5 where the larger the number the older the individual was when he/she learned English.
Respondent Educational Level	"1" = 0-8 years, "2" = 9-12 but no degree, "3" = high school diploma or GED with or without some post-secondary education, "4" = completed post-secondary degree.
Educational Curriculum	College preparatory = "1," all other = "0"
Literacy in Home	Sum of "yes" responses to: (1) newspapers, (2) magazines, (3) more than 25 books, (4) an encyclopedia, (5) a dictionary, (6) personal computer.
Brief Documents*	Sum of "yes" responses to a list of 18 short documents frequently associated with business and technical materials including textbooks (such as graphs, charts, memos, and schedules), that respondents reported reading or writing.
Books*	Individuals who responded yes to reading a book during last six months or also answered yes to one or more types of books. The book score reflected counts of the "yes" to each type of book.
Magazines	Number of magazines reported being read on a regular basis. Ranges from 0 - 5+.
Total News*	Sum of "yes" responses to question about whether or not respondent read various sections of the newspaper. Range = 0-13.
TV Watching	Scale of 1-7, with "7" indicating greatest number of hours per day.
Literacy Performance	NAEP Reading Prose Document Quantitative All IRT scales range from 0-500 with a mean of 305.

*The range of the responses to each of the three literacy practices reflects a "yes" response to contents listed under each of the specific media. These are shown as part of the background questionnaire given in Appendix D.

variability and variability due to imputed scores. A technical description of these procedures is provided in Appendix B (page B-21) and also in NAEP's Technical Report (1986).

Inspection of Figure 7.1 indicates that the assumed explanatory model leads to analyses of the following ordered sets of questions both within and across racial/ethnic groups.

- How do the young adults' family background and other demographic characteristics relate to the reported availability of literacy materials in the home; their selection of a high school curriculum; their reported level of educational attainment; their reported literacy activities with respect to newspapers, magazines, books, and brief documents; the amount of television they report watching; and, their estimated performance on each of the four proficiency scales.
- What are the most influential explanatory variables within the individual's background including literacy materials in the home, choice of a high school curriculum, and respondent's educational attainment with respect to explaining their reported literacy practices as well as their estimated literacy proficiencies?
- Other things being equal, with respect to family background and educational attainment, do different literacy practices have varying impacts across the four proficiency scales?
- Do the above relationships vary by racial/ethnic group membership? For example, do minority groups report literacy practices that differ from Whites and do these reported practices in turn have different impacts on the proficiency scales depending on group membership?

Relationships Between Background Variables and Literacy Materials in the Home

Table 7.2 presents the regression results relating background and demographic variables to literacy materials reported in the home for the total population and for each of the racial/ethnic groups separately. Inspection of the total group column in Table 7.2 shows a modest but significant multiple correlation between background/demographic variables and literacy materials in the home (.36). The prediction of literacy materials in the home is primarily driven by level of parental education. Also contributing to the prediction is parental occupation. It is interesting to note that Blacks do not report having fewer literacy materials in the home than do Whites (Ethnicity 1) or Hispanics (Ethnicity 2) after controlling for the remaining variables. However, after controlling for the remaining variables, Hispanics tend to have access to fewer literacy materials in the home than do Whites, although this difference does not quite reach statistical significance.*

Inspection of the "raw" score regressions and their standard errors for the ethnic group regressions (Table 7.2) suggests a similar pattern of results with respect to what are and are not important predictors of literacy materials in the home. In all three groups parental education is the only variable to significantly predict literacy materials in the home. There is also the suggestion that parental education has a somewhat stronger association with literacy materials in the home for Blacks and Hispanics than for Whites.

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*The difference between Whites and Hispanics is obtained by taking the difference between the raw regression weights for Ethnicity 1 and Ethnicity 2 and dividing by the pooled standard errors.

Table 7.2

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON
LITERACY MATERIALS IN THE HOME
BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	0.09 (0.06)				0.04			
ETHNIC 2	-0.13 (0.11)				-0.04			
SEX	-0.02 (0.04)	-0.02 (0.05)	-0.02 (0.11)	-0.00 (0.20)	-0.01	-0.01	-0.01	-0.00
PAR.ED	0.22* (0.03)	0.19* (0.03)	0.28* (0.06)	0.29* (0.10)	0.24*	0.22*	0.27*	0.26*
PAR.OCC	0.04* (0.01)	0.04* (0.01)	0.04 (0.02)	0.11* (0.04)	0.14*	0.13*	0.11	0.26*
AGE-ENG	-0.06 (0.05)	0.03 (0.08)	-0.12 (0.23)	-0.08 (0.08)	-0.03	0.01	-0.03	-0.08
MULTIPLE R	0.3598	0.2997	0.3376	0.4678				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Literacy Materials, and Choice of the Academic Curriculum in High School

A modest but significant correlation (.31) between the background explanatory variables and choice of academic curriculum in high school for the total group is shown in Table 7.3. This multiple correlation is driven primarily by parental education. The next two most important explanatory variables are parental occupation and literacy materials in the home. It should be noted that there are no significant racial/ethnic group effects with respect to choice of an educational curriculum when parental occupation and home educational support variables -- such as parental education and literacy materials in the home -- are controlled. In addition, for the total group, males and females do not differ in their choice of a high school curriculum after controlling for parental occupation and home support variables.

Inspection of the separate racial/ethnic group regressions in Table 7.3 indicates that level of parental education is the most important explanatory variable for Blacks and Whites while for Hispanics gender is an important predictor. Other things being equal, Hispanic boys are much more likely to choose an academic curriculum than are Hispanic girls. Literacy materials in the home is a statistically significant predictor of choice of academic curriculum for the total group and for Blacks and Whites while for Hispanics the raw score regression weight is about equivalent in size but does not achieve significance. This in part may reflect the relatively small Hispanic sample size.

Table 7.3

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON EDUCATION CURRICULUM: COLLEGE PREPARATORY BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	0.01 (0.04)				0.01			
ETHNIC 2	0.06 (0.07)				0.03			
SEX	0.03 (0.03)	0.03 (0.03)	0.10 (0.05)	-0.20* (0.08)	0.03	0.03	0.11	-0.21*
PAR.ED	0.12* (0.02)	0.14* (0.02)	0.08* (0.03)	0.03 (0.04)	0.20*	0.22*	0.15*	0.06
PAR.OCC	0.02* (0.01)	0.02* (0.01)	0.02 (0.01)	0.02 (0.02)	0.12*	0.11*	0.10	0.09
AGE-ENG	0.00 (0.03)	0.04 (0.06)	0.09 (0.11)	-0.05 (0.03)	0.00	0.03	0.04	-0.13
LITERACY	0.05* (0.02)	0.05* (0.03)	0.06* (0.03)	0.05 (0.04)	0.08*	0.07*	0.13*	0.13
MULTIPLE R	0.3096	0.3160	0.2945	0.3656				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, and Respondent's Educational Attainment

Inspection of the total group column in Table 7.4 shows a relatively high relationship between the explanatory variables and respondent's educational attainment (.55). Prediction of educational attainment is driven primarily by choice of academic curriculum in high school, followed by parental education. The next most important explanatory variable in predicting respondent's educational attainment is literacy materials in the home. The remaining significant explanatory variable for the total group is parental occupation level. It should be emphasized that regardless of the level of parental occupation or education, or choice of high school curriculum, literacy materials in the home show a relatively large independent contribution to the prediction of a respondent's educational attainment.

Inspection of the separate racial/ethnic group regressions in Table 7.4 indicates that choice of high school curriculum and literacy materials in the home are significant predictors of respondent's educational attainment for all three racial/ethnic groups.

Table 7.4

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON
RESPONDENTS EDUCATION LEVEL
BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	0.07 (0.05)				0.04			
ETHNIC 2	0.01 (0.09)				0.00			
SEX	-0.02 (0.03)	-0.01 (0.04)	-0.06 (0.07)	0.10 (0.12)	-0.01	-0.01	-0.04	0.06
PAR.ED	0.19* (0.02)	0.24* (0.03)	0.10* (0.05)	0.06 (0.06)	0.23*	0.27*	0.14*	0.09
PAR.OCC	0.03* (0.01)	0.03* (0.01)	0.02 (0.02)	0.03 (0.02)	0.10*	0.10*	0.09	0.13
AGE-ENG	0.07 (0.04)	0.11 (0.07)	-0.03 (0.16)	0.04 (0.04)	0.04	0.05	-0.01	0.07
LITERACY	0.14* (0.02)	0.16* (0.03)	0.09* (0.04)	0.14* (0.05)	0.16*	0.16*	0.12*	0.23*
EDUC.CUR	0.41* (0.04)	0.38* (0.04)	0.45* (0.08)	0.64* (0.13)	0.29*	0.27*	0.30*	0.40*
MULTIPLE R	0.5517	0.5551	0.4495	0.5876				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, and Literacy Practices Involving Brief Documents

Inspection of the total group column in Table 7.5 shows a relatively high significant multiple correlation of .50 between the explanatory variables and the reported reading and/or writing of brief documents. It should be kept in mind that this category of materials involves short technical and business materials, such as schedules, charts, graphs, memos, and so forth. The largest contributor to the predictor of such a practice is the respondent's level of educational attainment. The remaining significant predictors are high school curriculum, literacy materials in the home, parental education, and membership in the White majority as contrasted with Black racial/ethnic membership. It is possible, although not examined here, that the effect in favor of the Whites may reflect their higher level of educational attainment and/or their higher probability of employment in a job requiring the use of these kinds of materials. It is of interest to note that, other things being equal, males do not differ from females in their reported use of brief documents.

Regressions for each of the three racial/ethnic groups reported in Table 7.5 suggest that respondent's education is the most important predictor for all three groups. Literacy materials in the home are also a significant predictor for Whites and Hispanics but do not achieve significance for Blacks. Parental education is a significant predictor for Blacks, but not for Whites and Hispanics.

Table 7.5

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON BRIEF DOCUMENTS, NUMBER READ AND WRITTEN BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	1.61* (0.59)				0.08*			
ETHNIC 2	1.88 (1.01)				0.06			
SEX	-0.30 (0.39)	-0.34 (0.48)	0.25 (0.80)	-1.53 (1.24)	-0.02	-0.02	0.02	-0.10
PAR.ED	0.72* (0.29)	0.63 (0.38)	1.18* (0.51)	0.99 (0.64)	0.08*	0.06	0.14*	0.14
PAR.OCC	0.08 (0.09)	0.13 (0.11)	0.00 (0.18)	-0.31 (0.26)	0.03	0.04	0.00	-0.11
AGE-ENG	-0.12 (0.46)	-1.00 (0.83)	1.36 (1.77)	0.27 (0.47)	-0.01	-0.04	0.04	0.04
LITERACY	1.12* (0.27)	1.22* (0.37)	0.84 (0.45)	1.16* (0.56)	0.11*	0.11*	0.10	0.19*
EDUC.CUR	2.76* (0.44)	2.84* (0.54)	2.80* (0.95)	1.22 (1.49)	0.17*	0.18*	0.17*	0.07
RES.EDUC	3.05* (0.33)	3.00* (0.42)	3.01* (0.64)	3.98* (0.98)	0.28*	0.27*	0.27*	0.38*
MULTIPLE R	0.4990	0.4768	0.4771	0.5627				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, and the Reading of Books

The total column in Table 7.6 shows a relatively high significant correlation of .51 between the explanatory variables and the reading of books. Inspection of the total group regression weights in Table 7.6 indicates that this multiple correlation is driven primarily by the respondent's level of education. Other significant explanatory variables in the total group are the choice of high school curriculum, literacy materials in the home, and level of parental education. Other things being equal -- that is, choice of high school curriculum, level of parental education, respondent's educational attainment, and literacy materials in the home -- there is no difference in the reported practice of reading books among racial/ethnic groups. The educational support variables (literacy materials in the home and parental education level), along with choice of high school curriculum and the respondent's educational attainment, explain the major part of the variability in both brief documents and the reading of books. Unlike racial/ethnic group membership, these variables are subject to change through intervention.

Inspection of the separate racial/ethnic group regressions suggests that respondent's level of education is the most important predictor of book reading for all three racial/ethnic groups. For Whites and Blacks, literacy materials in the home as well as choice of high school curriculum are also significant predictors of book reading.

Table 7.6

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON BOOK READING, TYPES OF BOOKS READ BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	0.11 (0.15)				0.02			
ETHNIC 2	0.02 (0.26)				0.00			
SEX	0.06 (0.10)	0.07 (0.12)	0.07 (0.21)	-0.16 (0.33)	0.02	0.02	0.02	-0.04
PAR.ED	0.21* (0.07)	0.22* (0.10)	0.18 (0.13)	0.21 (0.17)	0.09*	0.08*	0.08	0.12
PAR.OCC	0.02 (0.02)	0.02 (0.03)	0.04 (0.04)	-0.04 (0.07)	0.02	0.02	0.05	-0.06
AGE-ENG	-0.02 (0.12)	-0.13 (0.21)	0.23 (0.45)	-0.04 (0.13)	-0.00	-0.02	0.03	-0.03
LITERACY	0.25* (0.07)	0.28* (0.10)	0.26* (0.11)	0.18 (0.15)	0.10*	0.10*	0.13*	0.12
EDUC.CUR	0.66* (0.11)	0.74* (0.14)	0.51* (0.24)	-0.32 (0.40)	0.16*	0.18*	0.12*	-0.08
RES.EDUC	0.90* (0.09)	0.91* (0.11)	0.82* (0.16)	0.98* (0.26)	0.31*	0.31*	0.29*	0.39*
MULTIPLE R	0.5076	0.5102	0.4628	0.4536				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, and the Reported Practice of Newspaper Reading

Table 7.7 indicates a significant but relatively moderate multiple correlation (.30) between the explanatory variables and the reported reading of newspapers. The variables with the most explanatory power are respondent's education level, followed by choice of academic curriculum, and literacy materials in the home. Once again, race/ethnicity does not contribute to the prediction, other things being equal. In fact, of the three reported reading practices -- brief documents, books, and newspaper reading -- only brief documents showed significant racial/ethnic group differences after controlling for the remaining explanatory variables.

When the regressions for each of the three racial/ethnic groups are examined separately (Table 7.7) there is one common predictor -- literacy materials in the home. In addition for Whites, choice of high school curriculum, educational attainment, and age at which they learned English achieve significance. For Blacks, literacy materials in the home followed by choice of high school curriculum are significant predictors, while in the much smaller sample of Hispanics, respondent's level of education and literacy materials in the home reach significance.

Table 7.7

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON TOTAL NEWSPAPER SECTIONS READ BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	-0.30 (0.25)				-0.04			
ETHNIC 2	0.43 (0.44)				0.03			
SEX	0.28 (0.17)	0.30 (0.21)	0.32 (0.36)	-0.37 (0.57)	0.05	0.05	0.05	-0.06
PAR.ED	0.21 (0.12)	0.22 (0.16)	0.41 (0.22)	-0.22 (0.29)	0.06	0.06	0.12	-0.08
PAR.OCC	-0.00 (0.04)	0.00 (0.05)	-0.07 (0.08)	0.07 (0.12)	-0.00	0.00	-0.05	0.06
AGE-ENG	-0.34 (0.20)	-0.87* (0.35)	1.11 (0.78)	-0.18 (0.22)	-0.05	-0.08*	0.08	-0.07
LITERACY	0.46* (0.12)	0.38* (0.16)	0.63* (0.20)	0.59* (0.26)	0.12*	0.09*	0.19*	0.23*
EDUC.CUR	0.63* (0.19)	0.63* (0.23)	1.10* (0.42)	-0.65 (0.69)	0.10*	0.10*	0.16*	-0.09
RES.EDUC	0.66* (0.14)	0.68* (0.18)	0.42 (0.29)	1.10* (0.45)	0.15*	0.16*	0.09	0.26*
MULTIPLE R	0.3033	0.3009	0.3672	0.3929				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, and the Reported Practice of Magazine Reading

There is a moderate, but significant correlation of .30 for the total group between magazine reading and the set of explanatory variables (Table 7.8). As with the other literacy practices, literacy materials in the home, choice of high school curriculum, respondent's education, and parental education are significant predictors. Unlike the other practices, gender is also a significant predictor, with females reporting reading more magazines on a regular basis than do males. Racial/ethnic group membership is also a significant predictor in that Blacks report reading more magazines than do Whites, after controlling for other variables.

The regressions for the three racial/ethnic groups show an inconsistent pattern of significant predictors. Table 7.8 reveals that respondent's education is the only significant predictor for Hispanics. For Blacks, only literacy materials in the home and choice of high school curriculum reach significance, whereas these two variables are joined by parental education and age of learning English in significance for Whites.

Table 7.8

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON MAGAZINE READING BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	-0.33* (0.14)				-0.08*			
ETHNIC 2	-0.09 (0.23)				-0.01			
SEX	0.21* (0.09)	0.19 (0.11)	0.26 (0.18)	0.04 (0.30)	0.06*	0.06	0.08	0.01
PAR.ED	0.15* (0.07)	0.19* (0.09)	0.06 (0.12)	0.09 (0.15)	0.08*	0.09*	0.03	0.06
PAR.OCC	-0.01 (0.02)	-0.02 (0.03)	-0.01 (0.04)	0.10 (0.06)	-0.01	-0.02	-0.02	0.16
AGE-ENG	-0.14 (0.11)	-0.38* (0.19)	0.17 (0.40)	-0.07 (0.11)	-0.04	-0.07*	0.02	-0.06
LITERACY	0.35* (0.06)	0.38* (0.09)	0.32* (0.10)	0.21 (0.14)	0.17*	0.16*	0.19*	0.15
EDUC.CUR	0.36* (0.10)	0.37* (0.13)	0.72* (0.22)	-0.64 (0.36)	0.11*	0.11*	0.20*	-0.18
RES.EDUC	0.16* (0.08)	0.14 (0.10)	0.15 (0.15)	0.48* (0.23)	0.07*	0.06	0.06	0.21*
MULTIPLE R	0.2965	0.2947	0.3506	0.4055				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Level, and Daily Television Watching

A significant correlation of .41 between the explanatory variables and amount of television watching is revealed for the total group in Table 7.9. The primary explanatory variables for the total group regression are racial/ethnic group membership and respondent's educational attainment. Both Whites and Hispanics watch significantly less television than do Blacks when controlling for the remaining explanatory variables. The following significant relationships were also found: females watch more television than do males; individuals who come from homes with higher parental education and occupation levels are likely to watch less television than are their counterparts; the more recently individuals learned to speak English, the less they watch television; and, the higher the educational attainment of the respondent, the less watching of television. These analyses suggest that, other things being equal, television watching is not associated with the number of literacy materials in the home or parental education or choice of high school curriculum.

Inspection of the individual regressions in Table 7.9 for each of the racial/ethnic groups suggests that respondent's level of education is an important predictor for both Blacks and Whites but does not achieve significance in the small sample of Hispanics in spite of the fact that the weights are similar in size for Blacks and Hispanics.

Table 7.9

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON TV WATCHING, HOURS PER DAY BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	-0.82* (0.13)				-0.20*			
ETHNIC 2	-0.83* (0.22)				-0.12*			
SEX	0.19* (0.09)	0.16 (0.10)	0.29 (0.20)	0.28 (0.29)	0.06*	0.05	0.09	0.09
PAR.ED	-0.12 (0.06)	-0.16 (0.08)	-0.15 (0.12)	0.09 (0.15)	-0.06	-0.08	-0.08	0.07
PAR.OCC	-0.05* (0.02)	-0.06* (0.02)	0.02 (0.04)	-0.03 (0.06)	-0.08*	-0.10*	0.03	-0.05
AGE-ENG	-0.24* (0.10)	-0.34 (0.18)	-0.47 (0.43)	-0.15 (0.11)	-0.07*	-0.06	-0.06	-0.12
LITERACY	0.04 (0.06)	0.01 (0.08)	0.07 (0.11)	0.04 (0.13)	0.02	0.01	0.04	0.03
EDUC.CUR	-0.14 (0.10)	-0.07 (0.12)	-0.34 (0.23)	-0.54 (0.35)	-0.04	-0.02	-0.09	-0.16
RES.EDUC	-0.55* (0.07)	-0.59* (0.09)	-0.34* (0.16)	-0.31 (0.23)	-0.24*	-0.26*	-0.14*	-0.15
MULTIPLE R	0.4062	0.3706	0.2421	0.3068				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Literacy Performance Outcome Measures

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, Literacy Practices, and Performance on the NAEP Reading Proficiency Scale

Table 7.10 shows a high, significant multiple correlation between the explanatory variables and NAEP reading proficiency for the total group (.59). The primary explanatory variables are the respondent's educational level and racial/ethnic group membership. Other significant explanatory variables include the reported reading or use of books and newspapers. With respect to racial/ethnic group membership, Whites significantly outperform Blacks and, to a lesser extent, so do Hispanics. In contrast, when controlling for the other explanatory variables, television watching is not related to performance on the NAEP reading scale nor is choice of high school curriculum. This latter result is probably a reflection of the fact that choice of educational curriculum is related to educational attainment which, in turn, is related to reading proficiency on the NAEP scale. A similar argument can be used to explain the lack of a direct effect of literacy materials in the home on NAEP reading proficiency. In contrast to the NAEP data for in-school students where there is a consistent sex difference favoring girls over boys, no statistically significant sex differences are apparent for the young adult population. It is significant that, among literacy practices, only the practice of reading or using books and newspapers predict performance on the NAEP reading proficiency scale.

Examination of the racial/ethnic group regressions in Table 7.10 suggests a similar pattern of important predictors for each of the three groups. For all groups, respondent's education level is the only statistically significant predictor. For Whites, newspaper reading is the only other variable to attain significance. For Blacks and Hispanics, no other variable reaches significance.

Table 7.10

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON NAEP READING SCALE BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	36.18* (4.07)				0.26*			
ETHNIC 2	24.65* (7.95)				0.11*			
SEX	4.08 (2.69)	4.43 (3.33)	1.46 (6.11)	3.14 (9.52)	0.04	0.04	0.01	0.03
PAR.ED	3.90 (2.00)	3.33 (2.60)	6.52 (3.46)	3.25 (4.79)	0.06	0.05	0.12	0.07
PAR.OCC	0.77 (0.62)	0.88 (0.77)	0.44 (1.14)	0.22 (1.93)	0.04	0.04	0.02	0.01
AGE-ENG	-3.66 (3.16)	-7.85 (6.65)	-3.51 (13.28)	-1.09 (3.41)	-0.03	-0.04	-0.02	-0.03
LITERACY	1.49 (2.14)	1.53 (3.06)	0.14 (3.11)	3.64 (4.49)	0.02	0.02	0.00	0.09
EDUC.CUR	2.83 (3.88)	2.95 (4.37)	1.47 (7.54)	2.89 (10.87)	0.03	0.03	0.01	0.03
RES.EDUC	25.70* (2.45)	26.11* (3.12)	23.89* (4.43)	24.99* (7.80)	0.33*	0.34*	0.33*	0.36*
BOOKS 2	1.76* (0.90)	2.03 (1.07)	0.81 (1.71)	-0.35 (3.11)	0.06*	0.08	0.03	-0.01
BRIEFDOC	0.37 (0.25)	0.28 (0.32)	0.62 (0.48)	1.09 (0.77)	0.05	0.04	0.10	0.16
TOTNEWS	1.31* (0.49)	1.38* (0.63)	1.10 (1.01)	0.47 (1.52)	0.07*	0.08*	0.07	0.03
MAGAZINE	0.74 (1.00)	0.59 (1.29)	1.95 (1.94)	0.33 (2.78)	0.02	0.02	0.06	0.01
TV WATCH	-0.87 (0.91)	-1.24 (1.17)	0.44 (1.87)	0.33 (2.85)	-0.03	-0.04	0.01	0.01
MULTIPLE R	0.5897	0.5215	0.5152	0.5815				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, Literacy Practices, and Performance on the Prose Literacy Scale

Inspection of the total group regressions in Table 7.11 shows a high significant multiple correlation of .61 between the explanatory variables and performance on the prose literacy scale. As with performance on the NAEP reading scale, the primary explanatory variables for the total group are racial/ethnic group membership and respondent's education level followed by parental education. In fact, the pattern of significant correlations parallels that of the NAEP Reading Proficiency scale with the exception that reported use of brief documents predicts performance on the prose scale while newspaper reading does not. Despite the fact that the NAEP exercises are multiple choice (requiring recognition of the correct answer among four alternatives) while the prose literacy tasks require some form of constructed response, the pattern of regression weights is remarkably similar.

The regressions for the three racial/ethnic groups in Table 7.11 indicate that the only important predictor in each group is respondent's level of education. Parental education and book reading are significantly related to the prose tasks for Whites while no other variables are significant for Blacks or Hispanics.

Table 7.11

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON
PROSE COMPREHENSION
BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	41.03* (4.08)				0.30*			
ETHNIC 2	28.50* (6.91)				0.13*			
SEX	2.54 (2.84)	1.80 (3.34)	9.39 (5.93)	-3.11 (9.91)	0.02	0.02	0.09	-0.03
PAR.ED	6.32* (2.20)	6.06* (2.86)	5.70 (3.72)	8.58 (5.14)	0.10*	0.09*	0.10	0.17
PAR.OCC	0.51 (0.60)	0.44 (0.77)	0.77 (1.32)	1.16 (1.91)	0.02	0.02	0.04	0.06
AGE-ENG	-2.52 (3.19)	-2.54 (6.16)	-2.62 (11.98)	-2.57 (3.91)	-0.02	-0.01	-0.01	-0.06
LITERACY	1.82 (1.97)	2.12 (2.85)	0.75 (3.14)	0.09 (4.44)	0.03	0.03	0.01	0.00
EDUC.CUR	2.12 (3.52)	2.15 (4.27)	1.14 (6.60)	-2.91 (11.39)	0.02	0.02	0.01	-0.02
RES.EDUC	24.47* (2.90)	24.06* (3.71)	22.78* (4.92)	32.77* (7.83)	0.31*	0.32*	0.30*	0.44*
BOOKS 2	2.29* (0.81)	2.57* (1.00)	2.67 (1.74)	-2.24 (2.83)	0.08*	0.10*	0.10	-0.08
BRIEFDOC	0.46* (0.23)	0.34 (0.28)	0.86 (0.47)	1.10 (0.81)	0.06*	0.05	0.13	0.15
TOTNEWS	0.88 (0.46)	0.85 (0.59)	0.82 (1.00)	0.93 (1.56)	0.05	0.05	0.05	0.05
MAGAZINE	0.96 (0.99)	0.92 (1.19)	1.72 (1.99)	-0.21 (2.96)	0.03	0.03	0.05	-0.01
TV WATCH	-0.63 (0.93)	-1.03 (1.13)	0.56 (1.79)	0.50 (3.01)	-0.02	-0.03	0.02	0.01
MULTIPLE R	0.6136	0.5287	0.5416	0.6291				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, Literacy Practices, and Performance on the Document Literacy Scale

Table 7.12 reveals a strong relationship (.67) between the explanatory variables and performance on the document literacy scale for the total group. As with the previous analyses on the proficiency scales, the major contributors to prediction are racial/ethnic group membership and respondent's education level. It is interesting to note that the discrepancy between Black and White performance (in favor of Whites) increases as one moves from the NAEP reading scale to the document scale. One possible explanation using the earlier regression analyses is that Blacks are less likely than Whites to engage in the practice of reading and writing brief documents. It is also of interest that each of the practices of reading books, brief documents, and newspapers is a significant predictor for the total group on the document scale. Once again the pattern of regression weights is quite similar to those on the NAEP reading and prose literacy scales.

The separate regressions in Table 7.12 indicate that the only significant predictor of document proficiency for all three racial/ethnic groups is respondent's level of education. Among the practices, only the reading of books and newspapers are significant predictors of performance on the document scale for Whites. For Blacks and Hispanics, none of the literacy practice variables reaches significance.

Table 7.12

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON DOCUMENT UTILIZATION BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	44.32* (3.72)				0.32*			
ETHNIC 2	25.55* (6.36)				0.11*			
SEX	2.80 (2.55)	1.21 (3.28)	9.15 (5.25)	8.56 (8.16)	0.03	0.01	0.09	0.08
PAR.ED	4.22* (1.97)	3.53 (2.47)	4.43 (3.26)	7.53 (4.72)	0.06*	0.05	0.08	0.16
PAR.OCC	0.36 (0.56)	0.34 (0.68)	0.60 (1.22)	0.92 (1.79)	0.02	0.02	0.03	0.05
AGE-ENG	-5.14 (2.87)	-6.34 (5.36)	-9.41 (11.27)	-4.82 (3.35)	-0.04	-0.04	-0.04	-0.12
LITERACY	1.82 (1.77)	2.23 (2.44)	0.73 (3.21)	0.77 (3.84)	0.03	0.03	0.01	0.02
EDUC.CUR	2.45 (3.62)	2.55 (4.32)	2.58 (6.44)	-5.06 (11.27)	0.02	0.03	0.02	-0.05
RES.EDUC	28.85* (2.47)	29.16* (3.15)	26.64* (4.32)	31.93* (7.84)	0.37*	0.40*	0.36*	0.45*
BOOKS 2	2.56* (0.80)	2.80* (0.98)	2.98 (1.72)	-1.45 (2.62)	0.09*	0.11*	0.11	-0.05
BRIEFDOC	0.44* (0.19)	0.34 (0.24)	0.65 (0.44)	1.33 (0.71)	0.06*	0.05	0.10	0.19
TOTNEWS	1.45* (0.44)	1.58* (0.55)	0.56 (0.93)	1.34 (1.38)	0.08*	0.09*	0.04	0.08
MAGAZINE	0.48 (0.83)	0.43 (1.03)	1.91 (1.80)	-2.14 (2.62)	0.01	0.01	0.06	-0.07
TV WATCH	-0.93 (0.90)	-0.84 (1.09)	-1.08 (1.66)	-2.46 (2.74)	-0.03	-0.03	-0.04	-0.07
MULTIPLE R	0.6727	0.5940	0.5832	0.6824				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Relationships Between Background Variables, Home Educational Support Variables, Choice of High School Curriculum, Respondent's Educational Attainment, Literacy Practices, and Performance on the Quantitative Literacy Scale

Another strong relationship (Table 7.13) for the total group is shown between the explanatory variables and performance on the quantitative literacy scale (.62). As before, the most significant variables are racial/ethnic group membership and respondent's education level. It will be observed from Table 7.13 that the pattern of relationships of explanatory variables to the quantitative literacy scale parallels those for the other proficiency scales. Once again, the use of books, brief documents, and newspapers are significant predictors of performance on the quantitative literacy scale after controlling for the other variables. It is interesting to note that magazine reading is not a significant predictor on this or any of the proficiency scales.

Inspection of Table 7.13 reveals that respondent's education level is the only significant predictor across all three racial/ethnic groups. For Whites brief documents and newspaper reading are significant predictors of performance on the quantitative scale while not for Blacks and Hispanics.

Table 7.13

DIRECT EFFECTS OF EXPLANATORY VARIABLES ON
Quantitative COMPUTATION
BY TOTAL GROUP AND ETHNIC SUBGROUPS

	RAW REGRESSION WEIGHT (AND STANDARD ERROR)				STANDARDIZED REGRESSION WEIGHT			
	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
ETHNIC 1	39.96* (4.06)				0.29*			
ETHNIC 2	21.14* (7.29)				0.09*			
SEX	4.22 (2.95)	3.36 (3.64)	8.31 (6.34)	5.59 (8.90)	0.04	0.03	0.08	0.05
PAR.ED	4.69* (2.37)	4.18 (3.20)	3.55 (3.86)	7.85 (5.29)	0.07*	0.06	0.06	0.17
PAR.OCC	0.65 (0.59)	0.66 (0.74)	0.88 (1.25)	0.85 (2.10)	0.03	0.03	0.04	0.04
AGE-ENG	-2.61 (3.29)	-6.69 (5.85)	4.40 (11.86)	0.06 (3.77)	-0.02	-0.04	0.02	0.00
LITERACY	1.61 (1.98)	1.93 (2.64)	0.49 (3.45)	1.48 (4.34)	0.02	0.03	0.01	0.03
EDUC.CUR	1.95 (3.37)	2.12 (4.28)	2.49 (6.89)	0.02 (13.53)	0.02	0.02	0.02	-0.00
RES.EDUC	24.33* (2.48)	24.28* (3.19)	25.31* (4.93)	23.49* (8.94)	0.31*	0.32*	0.34*	0.34*
BOOKS 2	2.06* (0.98)	2.25 (1.26)	1.28 (2.00)	0.94 (2.64)	0.07*	0.09	0.05	0.04
BRIEFDOC	0.66* (0.24)	0.60* (0.29)	0.68 (0.49)	1.33 (0.77)	0.09*	0.09*	0.10	0.19
TOTNEWS	1.49* (0.51)	1.52* (0.63)	1.53 (0.97)	1.09 (1.54)	0.08*	0.09*	0.10	0.07
MAGAZINE	-0.02 (1.24)	-0.18 (1.52)	0.29 (2.01)	-0.07 (2.89)	-0.00	-0.01	0.01	-0.00
TV WATCH	-1.02 (0.90)	-1.37 (1.10)	-1.09 (1.93)	2.22 (2.81)	-0.03	-0.04	-0.04	0.07
MULTIPLE R	0.6213	0.5414	0.5337	0.6377				

* VARIABLES WHOSE ASSOCIATED RAW WEIGHTS ARE AT LEAST TWO TIMES THEIR STANDARD ERRORS

Effects of Control Variables on Estimates of Differences Among Racial/Ethnic Groups on the Four Proficiency Scales

The following section attempts to partition group differences in literacy performance by estimating how much of the racial/ethnic group difference is associated with background/demographic characteristics, school variables, and literacy practices. Table 7.14 presents racial/ethnic group differences in scale score units on each of the four proficiency outcome measures, both before and after sequentially controlling for selected blocks of variables. This is accomplished by applying a block stepwise regression procedure. At the first step, both Whites and Hispanics are contrasted with Blacks on each of the four proficiency measures after controlling for the block of demographic variables (sex, parental education, parental occupation, age at which respondent learned English, and literacy materials in the home). At the second step, the block of school variables (choice of high school curriculum and educational attainment) are controlled along with the block of demographic variables. For the third and final step, the block of literacy practice variables (newspaper, magazine, book, and brief documents) are added to the regression along with the first two blocks of variables.

Inspection of Table 7.14 reveals the fact that there is only a nominal reduction in the racial/ethnic group differences when the education and practice blocks are added to the block of demographic/background variables. This "value added" analysis is consistent, however, with the path analysis finding that both choice of high school curriculum and educational attainment appear to be driven by the home educational support system. That is, in this "value added" analysis much of the effects of education and practice are already controlled for because of their strong association with the home educational support system.

Table 7.14

Estimates of Differences Among Racial/Ethnic Groups on Each of the Proficiency Scales Before and After Controlling for Background, Education, and Literacy Practice Variables*

Outcome	No Statistical Controls		Background/ Demographics		Demographics and Education		Demographics, Education, and Literacy Practice	
	White (1)	Hispanic (2)	White (3)	Hispanic (4)	White (5)	Hispanic (6)	White (7)	Hispanic (8)
NAEP Reading Proficiency	50.5	23.3	39.5	28.1	37.1	26.6	36.2	24.7
Prose Comprehension	56.1	27.2	44.3	31.7	42.0	30.2	41.0	28.5
Document	60.0	23.0	48.2	29.4	45.5	27.8	44.3	25.6
Quantitative	55.1	21.2	44.1	25.4	41.7	24.0	40.0	21.1

*All contrasts are with the Black sample. The entries in columns 1 and 2 indicate the average performance difference between Whites and Blacks and Hispanics and Blacks before controlling for any variables. The first entry in Column 3 (39.5) indicates that after controlling for demographics, Whites on average score 39.5 points higher than Blacks on the NAEP Reading Scale. Similarly the first entry in column 6 indicates that Hispanics' reading scores are on average 26.6 points higher than Blacks when demographics and education are statistically controlled.

It is interesting to note that background characteristics; i.e., parental education, parental occupation, age at which respondents learned English and literacy materials in the home, explain approximately 20% of the raw score difference between Black and White performance on each the proficiency scales. This percentage increases to about 27% when we attempt to account for differences between the two groups in terms of both their educational experiences and their reported literacy practices as these blocks of variables are added to the model. It should be kept in mind here, that demographics might not overwhelm more sensitive measures of the variables in these latter two blocks in explaining group performance differences.

In terms of standard deviation units, the observed differences between Blacks and Whites (before applying statistical controls) ranged from .91 of a standard deviation on the NAEP Reading Proficiency scale to 1.10 standard deviations for performance on the Document scale. These differences in standard deviation units are reduced to .72 and .88 respectively when the block of background/demographic variables are controlled for. When the education and practice variable blocks are entered into the model, the differences in standard deviation units are reduced to .66 and .81, respectively. It should be noted that the blocks of educational and practice variables reduce the score differences by approximately the same magnitude on each of the four proficiency scales.

Also revealed in these data is the fact that performance differences between Blacks and Hispanics have a tendency to increase after the blocks of background, education, and practice variables are entered. This probably reflects the fact that, on average, the Hispanics report coming from a less advantageous environment. Therefore, once these variables are controlled, the performance of Hispanics increases over that of Blacks.

Summary and Conclusions

Some have questioned whether or not policy research can be expected to have a direct impact on the processes of policy making and policy makers. Rather than attempting to define policy, it has been argued that the appropriate role for policy research is to establish a body of knowledge from which informed judgments can be made (Lerner & Lasswell, 1951; Messick, 1986a). It is toward this goal, that we have attempted in this chapter to increase our understanding of literacy by exploring the complex relationships among sets of variables as they relate to performance on the four proficiency scales. These relational analyses follow from the results of earlier chapters that were limited to inspection of the relationships of one or at most two variables on the performance of young adults.

Specifically, an explanatory model was developed to address six major questions:

- Which of the background characteristics including racial/ethnic group membership relate to the reported availability of literacy materials in the home?
- How do these background characteristics plus availability of literacy materials in the home impact on the formal education system -- choice of a high school curriculum and reported level of educational attainment?
- What are the most influential variables from the individual's background including literacy materials in the home, choice of a high school curriculum and respondent's educational attainment in helping to understand reported literacy practices and television watching?
- How does this complete set of variables relate to estimated performance on the four proficiency scales?

- Other things being equal, do the different literacy practices have varying impacts across the four proficiency scales?
- Do the relationships among the variables differ within the racial/ethnic groups?

The prediction of literacy materials in the home is driven in this analysis by level of parental education, with parental occupation making a smaller contribution. While gender and age at which the respondent reported learning to speak English do not account for the variability in reported literacy materials in the home, Hispanics tend to report fewer materials in the home than do Whites after controlling for other background variables, although these do not reach statistical significance. Blacks, however, do not differ from either Hispanics or Whites in their reported access to literacy materials.

Parental education and occupation along with access to literacy materials in the home are the most salient background characteristics in explaining choice of a high school curriculum. These same characteristics also contribute to the variability in respondent's educational attainment. But, the largest regression weight for the total population in predicting respondent's education is choice of a high school curriculum. For each of the three racial/ethnic groups, parental education is a significant predictor of choice of high school curriculum.

In predicting educational attainment, literacy materials in the home and choice of a high school curriculum achieve significance across the three racial/ethnic groups. It is noteworthy that racial/ethnic group membership does not account for the variability in either choice of high school curriculum or respondent's education level after controlling for parents education and occupation.

As with choice of high school curriculum and educational attainment, there appears, with few exceptions, to be little difference between racial/ethnic groups with respect to their reported use of brief documents and their reading and/or use of books and newspapers. The few exceptions are that Blacks and females report reading more magazines than do Whites and males and that Whites read and write significantly more brief documents than do Blacks. It is not clear from these data whether this latter result stems from a matter of choice or is the result of circumstance. That is, brief documents are frequently associated with employment and technical training, and it is possible that this difference might diminish if we had sensitive measures of such variables. The primary variables contributing to predicting literacy practices are literacy materials in the home, parental education, choice of high school curriculum and respondent's level of education.

In contrast to literacy practices, racial/ethnic group membership is the largest single predictor of reported television watching. Blacks report watching significantly more television than do either Whites or Hispanics. Again, level of education, be it parental or respondent's, along with parental occupation and age at which respondent reported learning to speak English contribute to the prediction of television watching. It is of some interest to note that women report watching more television than do men. This may be due to the fact that more women than men are in the home.

In understanding variability on each of the four proficiency scales, two variables appear to contribute the most in accounting for the variability in performance. Those are racial/ethnic group membership and respondent's level of education. Again, parental education accounts for a significant proportion of the variance on each of the proficiency scales.

Of particular significance is the fact that reported literacy practices predict performance in various anticipated ways. For example, reported book and newspaper reading attained significance in predicting performance on the NAEP Reading Proficiency scale. Furthermore, both book reading and the reported reading and writing of brief documents predicted performance on the prose and document literacy scales. While newspaper reading did not predict performance on the prose literacy scale, it does seem to be related to performance on the other three proficiency scales.

While it is well documented that controlling for background and educational processes does not eliminate racial/ethnic group differences on the proficiency scales, it was expected that introducing measures of adult literacy practices would substantially reduce the racial/ethnic group differences when used as additional control variables. While the various practices were significantly related to performance (in the total group), and thus serve to reduce the differences in racial/ethnic group performance, they do not by any means eliminate the differences, once other blocks of variables -- background and education -- are controlled.

There is some evidence from the within racial/ethnic group analyses that the relationship between literacy practices and literacy performance measures may show a somewhat different pattern. Most notably, the practice of reading/writing brief documents tended to show stronger relationships (as reflected by the size of the "raw" score regression weights) with both Black and Hispanic performance on the proficiency scales. While this pattern of relationships seldom reached significance, it was replicated across all reading proficiency outcomes. Among the literacy practices for Whites, the reported reading of books and newspapers showed the most consistent relationships with performance on each of the scales. These within group comparisons of the relationships between literacy practices and performance outcomes should be considered exploratory due to the relatively small sample sizes involved.

A relatively stable finding -- for the total group as well as for each of the three racial/ethnic groups -- is that both parental education and literacy materials in the home have a relatively strong, direct relationship with intermediate outcomes such as choice of high school curriculum, respondent's educational attainment, and literacy practices. As one might expect, the home educational support system has an indirect effect on the four proficiency scales, working through both school behaviors (e.g., choice of high school curriculum) and literacy practices. In addition, regardless of the fact that wide differences were noted among various groups in the amount of television watching, it does not account for a significant proportion of the variance on any of the proficiency scales after controlling for the other variables.

This chapter highlights the fact that investigation of the effects of isolated variables on one another does not provide appropriate data for informing policy making judgments. To accomplish this, analyses must be designed to reflect the complex nature of the relationships among a set of variables affecting a dynamic process such as literacy.

The results from these relational analyses suggest among other things, that the most promising intervention strategies are likely to be those that take into account the intergenerational aspects of poor academic performance -- parental education, economic situation, and early home experiences are all likely to affect the individual's system of values and knowledge. These value and knowledge systems can be expected to have cumulative and lasting effects on interests, motivations and aspirations, and ultimately on literacy practices and proficiencies. It should be recognized that the variables used in these analyses are proxies for the more complex systems. As such, the proxy variables carry with them the effects of the more complex systems that are not measured directly. Therefore, simply adding more literacy materials to the home, for example, without stimulating their use cannot be expected to result in increased literacy proficiencies.

Becoming fully literate in a technologically advancing society is a lifelong pursuit, as is sustaining good health. Both are complex and depend upon a number of factors. Just as there is no single action or step that, if taken, will ensure the physical health of every individual, so there is no single action or step that, if taken, will ensure that every individual will become fully literate.

CHAPTER VIII

THE ORAL-LANGUAGE ASSESSMENT

Nancy Mead

The oral-language assessment adds an important dimension to the profile of young adult literacy. While some research estimates that there is a sizeable population that is "functionally illiterate," experience suggests that most people function adequately in everyday situations. Perhaps for some individuals oral-language proficiency compensates for inadequate reading and writing skills. The oral-language assessment addresses the question, "Are individuals who do not perform basic reading and writing tasks able to function effectively using spoken language?"

Another aspect of the oral-language assessment is measurement of the range of oral-language proficiency. Although most people, with the exception of some non-native speakers of English, are able to communicate orally, some people are more effective than others. This fact is evidenced in common and more complex tasks, such as giving directions or helping a group reach a consensus. The oral-language assessment also addresses the question, "Are individuals who perform basic reading and writing tasks able to function effectively using spoken English?"

Assessment of oral language poses a number of problems. First, the population being assessed represents a wide range of communication abilities. For non-native English speakers, pronunciation, grammar, and vocabulary may pose the greatest barrier to effective communication. They may lack basic linguistic competence. Native English speakers rarely think about linguistic features when they talk. For this group, appropriate use of language in everyday situations is an important element of effective communication. This is often referred to as communication competence. However, the criteria of appropriate communication are tied to the culture of the communicators and the specific situation in which the communication takes place. This poses a problem for a national study that assesses communication among a wide variety of geographic, cultural and social groups.

The current study addresses the diversity of language ability and cultural background by focusing on functional communication competence. This concept is defined as the accomplishment of communication purposes in social situations. It encompasses linguistic competence and communication competence, but only within the context of communication purposes. Therefore, factors such as grammar, pronunciation, regional or cultural dialects, degrees of formality are only judged in relation to accomplishment of communication purposes. Thus, using slang might be fine for describing a movie to a friend but it might be detrimental for persuading a perspective employer to give you a job.

The Oral-Language Tasks

Eight tasks comprised the oral-language assessment of young adults: one task was included in the core and was thus administered to everyone participating in the assessment, with seven additional tasks aggregated together in a separate booklet. This latter set of tasks was administered to all those respondents who did not successfully complete at least three of the seven core tasks as well as to a subsample of those who did and were administered the simulation tasks.

The purpose of the oral-language tasks was to elicit an adequate amount of speech for evaluation. Topics were selected that were deemed appropriate for young men and women from all types of backgrounds and interests and that did not require special knowledge or prior thought. Even though tasks covered topics that everyone can talk about, they represented different communication demands and difficulty levels. The two least demanding tasks required the respondent to answer three simple questions about a photograph and to describe a sequence of events shown in a series of six photographs. A third item involved a basic but important survival task--to provide sufficient information to the fire department about a fire in the respondent's home. A fourth task required giving directions to a local grocery store, while a fifth asks for a description of a movie or television show. Two final tasks required persuasive communication. One was personal and involved making an appeal to a prospective employer. The other was more abstract and required stating one's opinion about increasing restrictions on smoking in public places. The task given to everyone in the core assessment was another descriptive task, a discussion of a spare time activity.

Rating Scales

Responses to each task were evaluated four different ways: (1) comprehensibility, (2) overall task accomplishment, (3) delivery problems, and (4) language problems (Table 8.1).

The main purpose of the comprehensibility rating was to screen out responses that can not be scored further. Scoring stops if a respondent received a rating of "0", "1", or "9". The second rating was overall task accomplishment. The characteristics of an adequate response depended upon the demands of the task. A superior response usually required more elaboration. For some simple tasks, however, the rating scale did not include the superior level. The purpose of the last two ratings, delivery and language, was to identify problems that might contribute to poor responses in comprehensibility or task accomplishment.

Table 8.1

Rating Scales

Comprehensibility

0 = No response

1 = Listener can comprehend only meaning of fragments or cannot comprehend anything.

2 = Listener can comprehend meaning of most of what is said but listener has to work at it.

3 = Listener can easily comprehend meaning of all that is said.

9 = Speaker refuses, says can't do it.

Task Accomplishment

1 = Off task

2 = Minimal

3 = Adequate

4 = Superior

Delivery

1 = The speaker has problems with fluency and/or pronunciation. The problems hinder comprehensibility and/or accomplishment of the task. Problems with fluency include halting speech, awkward pauses and vocalized pauses, such as ah, um, you know. Problems in pronunciation include use of nonstandard sounds, stress and intonation.

2 = The speaker has infrequent or no problems with fluency and/or pronunciation. Neither comprehensibility nor accomplishment of the task is hindered.

Language

1 = The speaker has noticeable problems with vocabulary and/or grammar. The problems hinder comprehensibility and/or accomplishment of the task. Problems with vocabulary include limited vocabulary, misuse of words and code switching. Problems with grammar include mistakes in word order, usage and agreement.

2 = The speaker has infrequent or no problems with vocabulary and/or grammar. Neither comprehensibility nor accomplishment of the task is hindered.

Procedures for Assessment and Scoring

In addition to the core oral-language task which was administered to everyone, two subgroups were administered the seven tasks comprising the oral-language assessment: The first group included respondents who failed to answer correctly three out of the first seven tasks in the core assessment. This group of 64 respondents was administered the oral-language assessment instead of the simulation tasks. A second group included a random subsample of respondents who passed the core tasks and thus received the simulation tasks. To identify this subsample, about 200 out of 800 block locations were identified at random. In these locations interviewers picked one of the first three respondents and administered the oral-language assessment after the simulation tasks. There were 208 individuals in this group.

To determine their representativeness, the subsample of 208 respondents was compared on several variables with the full sample of young adults who attempted the simulation tasks. The two groups were compared with respect to eight key background variables: sex, race/ethnicity, language spoken in home, educational attainment, mother's education, father's education, respondent's occupational status, and respondent's household income. Chi square tests using a design effect of 2.5 indicated no significant differences except for sex. Since no differences in achievement were observed for males and females in the full sample and since the two groups differed in no other ways, the subsample was considered to be representative of the total group which passed the core and received the simulation tasks. Specific background characteristics of those who failed the core are compared to those who passed the core in a later section of this chapter.

The oral-language assessment was also administered to a subsample of the Spanish-speaking participants. This group responded to the background questionnaire in Spanish. Some of these individuals passed the core in English, some passed the core in Spanish, and some failed the core assessment. Results are not presented for these individuals because the group is quite small, 12 people, and the criterion for selecting Spanish speakers for the oral-language tasks was not applied consistently.

In conducting the oral-language assessment, interviewers attempted to put respondents at their ease. They explained the assessment to the respondents and tape recorded the remainder of the interview. The tasks were read exactly as they were written in the guide. If an individual appeared to have trouble responding to a given task, the interviewer provided standard probes to elicit a response. The interviewer did not interrupt in any way once the respondent began to talk. The interviewer listened in a friendly, attentive manner but remained neutral to what the respondent was saying.

The tapes were scored at a later time by a team of trained scorers. For each task, the scoring coordinator explained the scoring guide and played examples that represented various levels of performance. Scorers then practiced scoring additional examples and were given feedback about the ratings they assigned. This process continued until scorers reached proficiency in using each guide. Responses were rated by two sorers. The first scorer rated a response for all four factors. The second scorer rated the response for comprehensibility and overall task accomplishment. The description of a spare time activity is an exception. In this case approximately 50 percent of the responses were rated by two scorers. Table 8.2 summarizes the percent agreement between the first and second ratings for each item.

Table 8.2

Percent Agreement on Comprehensibility and Task Accomplishment Ratings

	Comprehensibility	Task Accomplishment
Flat Tire		
Where	95	95
What Happened	97	95
What Next	98	95
Doctor's Office Sequence	96	92
Fire Department Phone Call	96	94
Directions to Grocery	94	84
Movie or TV Show Description	91	83
Job Interview	97	88
Opinion about Smoking	96	87
Spare Time Activity Description (Core Assessment)	96	93

Results

Performance on the oral-language tasks was examined for two subgroups: (1) 64 respondents who failed the core assessment--oral-language-only sample--, and (2) 208 respondents who passed the core assessment and who were randomly sampled for the oral-language assessment--simulation-task subsample. Performance on the oral-language task administered to everyone was examined for the 64 who failed the core and the full sample of 3,474 who passed the core.

Comprehensibility, Delivery and Language

The results for the comprehensibility rating are presented in Table 8.3. Very few individuals, usually less than one percent, exhibit the lowest rating, indicating that the scorer can, at best, only comprehend fragments of the response. However, a considerable number of individuals do not respond or indicate that they cannot do the task. The percentages for the oral-language-only sample range from 8% to 17% for the seven tasks in the oral-language assessment, but reaches 46% for the oral item in the core assessment. The percentages for the simulation-task subsample range from less than 1% to 7%.

Table 8.3

Percentage of Young Adults at Each Level of Comprehensibility[+]

	0/9 No Response/ I Can't Do	1 Cannot Comprehend	2 Comprehend With Effort	3 Comprehend Easily
Flat Tire				
Where				
Oral-language-only sample	15.2 (5.7)	5.6 (5.0)	5.4 (3.4)	73.7 (7.5)
Simulation-task subsample	7.2 (1.9)	0.7 (0.6)	1.7 (1.1)	90.4 (2.2)
What Happened				
Oral-language-only sample	8.1 (3.9)	0.0 (0.0)	11.3 (5.9)	80.6 (7.2)
Simulation-task subsample	2.8 (1.1)	0.0 (0.0)	1.3 (0.9)	95.9 (1.5)
What Next				
Oral-language-only sample	9.1 (3.9)	1.4 (1.0)	10.9 (5.8)	78.7 (7.0)
Simulation-task subsample	4.7 (1.6)	0.0 (0.0)	0.9 (0.7)	94.4 (1.7)
Doctor's Office Sequence				
Oral-language-only sample	8.5 (4.5)	0.0 (0.0)	34.1 (11.2)	57.3 (9.4)
Simulation-task subsample	1.5 (0.8)	0.0 (0.0)	1.3 (0.8)	97.2 (1.1)
Fire Department Phone Call				
Oral-language-only sample	8.7 (4.5)	0.0 (0.0)	27.3 (11.5)	64.1 (9.8)
Simulation-task subsample	0.5 (0.3)	0.0 (0.0)	3.1 (1.5)	96.3 (1.5)
Directions to Grocery				
Oral-language-only sample	12.1 (5.0)	0.0 (0.0)	36.3 (11.3)	51.6 (9.1)
Simulation-task subsample	1.8 (0.9)	0.0 (0.0)	1.9 (1.1)	96.3 (1.4)
Movie or TV Show Description				
Oral-language-only sample	16.9 (5.6)	0.7 (0.7)	22.9 (8.0)	59.5 (9.5)
Simulation-task subsample	5.0 (1.9)	0.0 (0.0)	8.6 (2.6)	86.5 (2.8)
Job Interview				
Oral-language-only sample	10.5 (4.8)	0.7 (0.7)	34.1 (11.1)	54.7 (9.1)
Simulation-task subsample	4.2 (2.0)	0.0 (0.0)	1.0 (0.8)	94.8 (2.1)
Opinion About Smoking				
Oral-language-only sample	9.4 (4.8)	0.0 (0.0)	28.8 (11.4)	61.9 (9.4)
Simulation-task subsample	2.1 (1.0)	0.4 (0.4)	2.8 (1.2)	94.7 (1.5)
Spare Time Activity Description				
Oral-language-only sample	45.5 (10.3)	0.0 (0.0)	15.4 (6.9)	39.1 (9.2)
Simulation-task sample	3.1 (0.4)	0.1 (0.0)	3.2 (0.3)	93.6 (0.5)

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 (3,466 for Spare Time) and weighted N of 1,238,673 (20,679,788 for Spare Time).

The "2" rating for comprehensibility is given for responses that the scorer understood, but he or she has to work at it. For the first task, which ask three simple questions about a picture showing someone changing a flat tire, few individuals exhibit problems with comprehensibility. However, for the remaining tasks, which required more extended responses, the percentage of "2" ratings increases for the oral-language-only sample. For three of the oral-language tasks, roughly one-third of the oral-language-only sample can be understood, but only with some effort on the part of the listener. In addition, for three other tasks some 23% to 29% have ratings of "2." In contrast, on only one task does the percentage of the simulation-task subsample approach ten -- all others are 3.2% and below.

The delivery and language ratings capture information about the factors that may contribute to problems in comprehensibility. Results for these ratings are shown in Tables 8.4 and 8.5. For the oral-language-only sample, problems are more likely attributable to delivery than to language. The percentage of the oral-language-only sample who exhibit delivery problems ranges from 4% to 32% while the percentage who display language problems is never higher than 11 percent.

Table 8.4

Percentage of Young Adults at Each Level of Delivery[+]

	No Response/ I Can't Do/ Incomprehensible	Problems	No Problems
Flat Tire			
Where			
Oral-language-only sample	20.8 (7.0)	5.4 (3.4)	73.7 (7.5)
Simulation-task subsample	7.9 (2.0)	0.0 (0.0)	92.1 (2.0)
What Happened			
Oral-language-only sample	8.1 (3.9)	6.2 (5.1)	85.7 (6.4)
Simulation-task subsample	2.8 (1.1)	0.2 (0.3)	97.0 (1.2)
What Next			
Oral-language-only sample	10.5 (4.3)	4.1 (3.5)	85.4 (5.6)
Simulation-task subsample	4.7 (1.6)	0.7 (0.7)	94.6 (1.7)
Doctor's Office Sequence			
Oral-language-only sample	8.5 (4.5)	31.1 (11.4)	60.3 (9.5)
Simulation-task subsample	1.5 (0.8)	1.8 (1.0)	96.7 (1.3)
Fire Department Phone Call			
Oral-language-only sample	8.7 (4.5)	28.1 (11.5)	63.3 (9.8)
Simulation-task subsample	0.5 (0.3)	1.6 (0.9)	97.9 (1.0)
Directions to Grocery			
Oral-language-only sample	12.1 (5.0)	30.4 (11.3)	57.5 (9.1)
Simulation-task subsample	1.8 (0.9)	1.7 (0.8)	96.5 (1.2)
Movie or TV Show Description			
Oral-language-only sample	17.6 (5.7)	18.5 (6.3)	64.0 (8.1)
Simulation-task subsample	5.0 (1.9)	5.0 (2.2)	90.0 (2.7)
Job Interview			
Oral-language-only sample	11.2 (5.0)	31.5 (11.3)	57.3 (9.2)
Simulation-task subsample	4.2 (2.0)	0.9 (0.7)	95.0 (2.1)
Opinion About Smoking			
Oral-language-only sample	9.4 (4.8)	26.4 (11.6)	64.2 (9.6)
Simulation-task subsample	2.5 (1.0)	1.0 (0.8)	96.5 (1.1)
Spare Time Activity Description			
Oral-language-only sample	45.5 (10.3)	14.3 (6.1)	40.2 (9.1)
Simulation-task sample	3.2 (0.4)	1.0 (0.2)	95.8 (0.4)

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 (3,455 for Spare Time) and weighted N of 1,238,673 (20,637,818 for Spare Time).

Table 8.5

Percentage of Young Adults at Each Level of Language[+]

	No Response/ I Can't Do/ Incomprehensible	Problems	No Problems
Flat Tire			
Where			
Oral-language-only sample	20.8 (7.0)	0.0 (0.0)	79.2 (7.0)
Simulation-task subsample	7.9 (2.0)	0.5 (0.5)	91.5 (2.0)
What Happened			
Oral-language-only sample	8.1 (3.9)	4.7 (3.5)	87.1 (5.6)
Simulation-task subsample	2.8 (1.1)	0.0 (0.0)	97.2 (1.1)
What Next			
Oral-language-only sample	10.5 (4.3)	5.6 (5.0)	84.0 (6.2)
Simulation-task subsample	4.7 (1.6)	0.0 (0.0)	95.3 (1.6)
Doctor's Office Sequence			
Oral-language-only sample	8.5 (4.5)	9.8 (4.5)	81.7 (6.5)
Simulation-task subsample	1.5 (0.8)	0.7 (0.7)	97.8 (1.1)
Fire Department Phone Call			
Oral-language-only sample	8.7 (4.5)	6.3 (5.0)	85.0 (6.5)
Simulation-task subsample	0.5 (0.3)	0.0 (0.0)	99.5 (0.3)
Directions to Grocery			
Oral-language-only sample	12.1 (5.0)	11.4 (5.9)	76.6 (7.4)
Simulation-task subsample	1.8 (0.9)	0.0 (0.0)	98.2 (0.9)
Movie or TV Show Description			
Oral-language-only sample	17.6 (5.7)	4.9 (5.0)	77.5 (6.8)
Simulation-task subsample	5.0 (1.9)	0.3 (0.3)	94.7 (1.9)
Job Interview			
Oral-language-only sample	11.2 (5.0)	4.4 (3.6)	84.4 (6.2)
Simulation-task subsample	4.2 (2.0)	0.0 (0.0)	95.8 (2.0)
Opinion About Smoking			
Oral-language-only sample	9.4 (4.8)	9.4 (5.3)	81.2 (6.4)
Simulation-task subsample	2.5 (1.0)	0.2 (0.3)	97.3 (1.1)
Spare Time Activity Description			
Oral-language-only sample	45.5 (10.3)	1.3 (1.3)	53.2 (10.4)
Simulation-task sample	3.2 (0.4)	0.5 (0.1)	96.3 (0.4)

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 (3,456 for Spare Time) and weighted N of 1,238,673 (20,640,318 for Spare Time).

Task Accomplishment

An overview of the task accomplishment results are presented in Table 8.6. It shows the percentage of the oral-language-only sample and the simulation-task subsample who gave an adequate level response or better on each oral task. Individuals who did not respond to the task, said they couldn't do it, or gave incomprehensible responses are included in the lowest category of task accomplishment. This procedure may result in an underestimate of performance for some individuals. The results indicate that the simulation-task subsample out perform the oral-language-only sample in all tasks. The difference is significant for seven out of ten task-accomplishment ratings. The tasks for which differences were not significant were either quite easy or quite hard for both groups. Applying a more conservative statistical test (.005) to adjust for multiple comparisons, the difference is significant for five tasks. However, it should be noted that the oral-language-only sample represents about one percent of the total young adult population at the very lowest end of the literacy scale. Their poor performance on both the core literacy and oral tasks may not be indicative of the performance of less extreme groups.

The oral-language tasks represent three common reasons for speaking: informative, narrative and persuasive. The following sections detail the results of task accomplishment in terms of these communication purposes.

Table 8.6

Percentage of Young Adults at Adequate Level or Above for Task Accomplishment[+]

	Oral-language-only sample	Simulation-task subsample
Flat Tire		
Where	70.4 (7.8)*	88.4 (2.7)
What Happened	84.1 (6.2)	90.6 (2.1)
Flat Tire - What Next	80.5 (7.0)	89.7 (2.5)
Doctor's Office Sequence	45.7 (9.7)**	86.1 (2.9)
Fire Department Phone Call	49.3 (9.4)**	86.6 (2.8)
Directions to Grocery	20.8 (7.8)	37.1 (5.0)
Movie or TV Show Description	12.8 (5.7)**	53.7 (5.2)
Job Interview	25.1 (7.3)**	87.1 (1.9)
Opinion About Smoking	47.9 (10.7)*	73.2 (4.5)
Spare Time Activity Description	40.4 (9.0)**	81.5 (1.1)++

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 (3,461 for Spare Time) and weighted N of 1,238,673 (20,653,101 for Spare Time).

++ Results for simulation-task full sample.

* Statistically significant difference at the .05 level and 50 df.

** Statistically significant difference at the .005 level and 50 df.

Task Accomplishment: Informative Speaking

Frequently communication demands require the speaker to provide specific information. In the assessment, the easiest task of this type asks the respondent three simple questions about a photograph of a woman changing a flat tire: (1) Where is this situation taking place? (2) What just happened? (3) What is probably going to happen next. For each question the individual has to provide a single piece of information.

A minimal response to this task is one that is vague or one that is on the general topic of flat tires but is judged not to be an appropriate response to the question. The following are minimal responses to the questions:

Q. Where is this situation taking place?

A. Outside

Q. What just happened?

A. Flat tire

Q. What will probably happen next?

A. She's having difficulty.

An adequate response provides a logical, specific answer to the question. There is no superior rating for this task.

As shown in Table 8.7 almost all individuals give an adequate response. The percentages of "3" ratings for the simulation-task subsample for the three questions are 88%, 91%, and 90%, respectively. The percentages for the oral-language-only sample are -- 70%, 84%, and 80%, respectively.

The phone call to the fire department requires giving two pieces of information. For this task the respondent is asked to pretend that he or she is home when a fire breaks out and to call the fire department to get help.

Table 8.7

Percentage of Young Adults at Each Level of Task Accomplishment for Informative Tasks [+]

	0/9/1 No Response/ I Can't Do/ Incomprehensible/ Off Task	2 Minimal	3 Adequate	4 Superior
Flat Tire				
Where				
Oral-language-only sample	21.4 (7.1)	8.3 (3.8)	70.4 (7.8)	--
Simulation-task subsample	8.2 (2.0)	3.4 (1.8)	88.4 (2.7)	--
What Happened				
Oral-language-only sample	8.1 (3.9)	7.8 (4.5)	84.1 (6.2)	--
Simulation-task subsample	2.8 (1.1)	6.6 (2.1)	90.6 (2.1)	--
What Next				
Oral-language-only sample	10.5 (4.3)	9.1 (4.7)	80.5 (7.0)	--
Simulation-task subsample	4.7 (1.6)	5.6 (1.8)	89.7 (2.5)	--
Fire Department Phone Call				
Oral-language-only sample	8.7 (4.5)	42.0 (10.9)	49.3 (9.4)	--
Simulation-task subsample	0.5 (0.3)	12.9 (2.8)	86.6 (2.8)	--
Directions to Grocery				
Oral-language-only sample	12.1 (5.0)	67.1 (9.1)	18.2 (6.2)	2.6 (2.7)
Simulation-task subsample	1.8 (0.9)	61.1 (4.9)	36.9 (4.9)	0.2 (0.2)

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 and weighted N of 1,238,673.

In a minimal response the speaker either fails to identify the problem or does not give an adequate address. In the following example of a minimal response, the respondent gives an address but does not mention the name of the street:

> I would tell them I have a fire and my house is the fourteenth building, 4105, apartment 1C and I need the fire department right away because... I need the fireman, without a doubt.

An "adequate" response includes both a statement of the problem (e.g., there is a fire) and the location (e.g., a street address or a description of a rural location). There is no superior rating for this task.

Although 87% of the simulation-task subsample provide an adequate response to this task, it is still disturbing that 13% of this group fail to give at least one of the important details that a fire department needs in order to provide assistance (Table 8.7). Moreover, 42% of the oral-language-only sample also fail in this regard. While some of these individuals experience problems in understanding and speaking English, many also fail to understand the demands of this communication task.

The most difficult informative task in the assessment is the one in which the respondent provides directions for how to get to a local grocery store. The directions need to be complete enough for a stranger to follow.

A "minimal" response is one which does not provide an adequate amount of information. The most common problem is failure to give the listener an adequate orientation. It is often unclear in which direction the listener is supposed to start. Other problems include failing to say where to turn or which way to turn. Below is example of a "minimal" response in which the respondent fails to provide an adequate orientation:

> Ok, now you're on Winston. You go straight ahead until you hit York Road, which you'll see a red light and a gas station. Across the street there'll be a McDonald's. You'll make a right-hand turn and keep going straight up until you see Food Warehouse. When you see Food Warehouse, you'll make another right-hand turn and you're in the Food Warehouse.

A respondent provides an "adequate" response if he or she gives a sequence of specific directions adequate for a stranger to follow. The following response was judged adequate, although it assumes that the listener understands which way is south:

> From here, to a grocery store? From here, you'd go.... Let's see. Facing south, you would make a right. And you go down one, two, three blocks, and you'll hit a traffic light. Then you make another right. And you go up to the first traffic light and make a left. And right on your left, you just go down about a quarter of the block and there's a driveway and then it's right next to the gas station, that's where the Pantry is.

Superior directions are those in which the speaker elaborates and adapts the directions for a stranger; the speaker mentions landmarks and does not assume that the listener knows the area.

Providing adequate directions is a difficult task for most people (Table 8.7). Only 37% of the simulation-task subsample and 18% of the oral-language-only sample perform at the adequate level. In addition, almost no one in either group provides superior directions -- less than one percent of the simulation-task subsample and three percent of the oral-language-only sample.

Task Accomplishment: Narrative Speaking

Narrative speaking also requires providing information. However, the specific nature of the information is not critical. The main goal is to provide enough detailed information for the listener to get a sense of what the speaker is talking about.

The simplest narrative task in the assessment presents the respondent with a series of six photographs that show a sequence of events -- a young man waking up ill, going to a doctor's office, seeing the doctor, getting a prescription, and taking some medicine. The individual is asked to tell the story that the photographs show. The task requires narrating a sequence of events.

In a "minimal" response the speaker describes a logical situation for at least one but not all the photographs, or the situations the speaker describes do not form a logical sequence of events. The following was judged a minimal response because the description of the man getting his teeth fixed does not fit logically with the other descriptions of the man having a headache.

> Photograph 1 looks like the man, he has a headache. It seems like he had a hangover. Photograph 2, it seems like the man and the lady and the little boy sitting in the doctor's office waiting. Photograph 3 looks like there's a man getting his teeth fixed. Photograph 4 seems like a man filling out for a perscription from a doctor. Photograph 5 seems like somebody is purchasing something. And photograph 6, it looks like a guy, yeah it's a guy taking medicine. It seems like he has a sore throat or something.

An "adequate" response is one that provides a logical situation for each picture and the situations form a logical sequence of events. "Adequate" responses often take the form of lists, e.g., "In the first picture.... In the second picture...."

A "superior" response explicitly ties together logical situations for the individual pictures and elaborates about possible motivation, feelings, reactions, causes, or consequences. It is usually presented in a narrative format. The following is an example of a "superior" response:

> John woke up and he's got fever. He doesn't feel well. So he went to the doc's office and he sat in the waiting room until finally the doctor could see him. And he poked and pushed and said well you've got nothing but a mild cold and let me make you a prescription here. And so John goes to the pharmacy and the cute little pharmacist makes him a prescription, fills his prescription and John takes his prescription home and takes his pills, after which he will feel better.

The doctor's office task is not difficult for the simulation-task subsample (Table 8.8). Seventy-eight percent provide an adequate response and an additional 8% provide a "superior" response. In contrast, 46% of the oral-language-only sample provide an "adequate" response while 46% provide a "minimal" response.

Another narrative task requires the speaker to describe a movie or television show. Here, the individual is urged to tell as much about what happened as he or she can. The key to this task is elaboration.

"Minimal" ratings are given to descriptions that are vague or limited. The listener does not get a clear sense of what took place. The following example of a "2" response is relatively long, but it provides very little information or description:

> "Ninty-nine Ways to Pick Up the Right Men" is... Some lady from a soap opera and some guy from another night-time soap opera, they interviewed single men and women and found out what they... the guy interviewed the guys and the female interviewed the females and they found out what the guys like about the females and what the females like about the guys.

Table 8.8

Percentage of Young Adults at Each Level of Task Accomplishment for Narrative Tasks[+]

	0/9/1 No Response/ I Can't Do/ Incomprehensible/ Off Task	2 Minimal	3 Adequate	4 Superior
Doctor's Office Sequence				
Oral-language-only sample	8.5 (4.5)	45.7 (10.9)	45.7 (9.7)	0.0 (0.0)
Simulation-task subsample	1.5 (0.8)	12.4 (2.7)	77.7 (4.0)	8.4 (3.0)
Movie or TV Show Description				
Oral-language-only sample	19.1 (5.7)	68.0 (8.2)	7.9 (3.7)	4.9 (5.0)
Simulation-task subsample	6.8 (2.4)	39.5 (4.8)	38.9 (5.7)	14.8 (4.4)
Spare Time Activity Description				
Oral-language-only sample	45.5 (10.3)	14.1 (4.8)	35.4 (8.5)	5.0 (5.0)
Simulation-task sample	3.6 (0.4)	14.8 (1.0)	73.1 (1.3)	8.4 (0.8)

[+] For oral-language-only sample based on an N of 64 (63 for Spare Time) and weighted N of 224,779 (223,388 for Spare Time) and for simulation-task subsample based on an N of 208 (3,461 for Spare Time) and weighted N of 1,238,673 (20,653,101 for Spare Time).

A response in which the speaker gives a coherent description of situations, events, characters, or personalities in a movie or television show is given an "adequate" rating. The description may include opinions, but must also include some other information. The following is an example of an "adequate" response:

> I saw a movie called Mask. It's about a lady who had a son who had a disease which caused his disfigurement. And the story was about how the lady and the son tried to cope with this problem of his disfigurement, how he attended school -- she tried to put him in a normal school -- and how he coped with the other children. And at the end of the movie he ends up dying.

A "superior" response differs from an adequate one in the degree of elaboration and coherence. These responses are richer because they are more comprehensive and/or detailed. For example:

> Oh god, a hilarious movie called The Gods Must Be Crazy and it's about the Bushmen of the Kalahara. And I had seen it in French, so I had seen the movie twice without knowing it. It's about a bottle that's dropped out of a helicopter by the pilot -- a Coke bottle -- and it falls in the middle of the Kalahara desert and a Bushman finds it and he and his family start using it as a tool. And what happens is that it causes problems in the tribe and they start getting jealous over it and they had never been jealous of things before in their tribe, so that the whole story goes on about this Bushman who decides he's going to drop the bottle off the edge of the earth to get rid of it and its evil. They think it's evil. And then there's two other plots. There's a revolutionary group that's just causing all kinds of terror and then a love story. It's really a very good film.

The responses to this task are unexpectedly low (Table 8.8). For the simulation-task subsample 39% give "adequate" responses and 15% give superior responses. In contrast, for the oral-language-only sample 8% give "adequate" responses while 5% give "superior" responses.

The results for a similar task, the description of a spare time activity, are better, and it is possible that the scoring guide for the movie and/or television item was constructed with higher standards in mind. However, for such an item it does not seem unreasonable to require some sort of concrete description in addition to opinion in order to attain a "3" rating.

The task administered to everyone in the core assessment asks individuals to describe what they like to do in their spare time and to tell why they like to do it. This task requires the respondent to describe some activity in enough detail for the listener to get a general idea of what the respondent does in his or her spare time.

A "minimal" response to this task is a vague description of a spare time activity. The speaker briefly mentions one or two activities and gives no more than one reason for liking what he or she does. The listener does not get a clear idea of what the activity is. The following are two sample responses that received the "2" rating:

> I like to read because it relaxes me.
>
> I like woodcutting and mechanical drawing.

In an "adequate" response, the speaker describes one spare time activity in some detail or provides a list of three or more activities. The speaker may present considerable detail but does so in a disconnected, rambling manner. The listener gets a clear idea of what the person does in his or her spare time. The "3" rating was given to the following response:

> In my spare time I like to read. I like to be on the couch, get a good book, a glass of iced tea, and just relax and read and pretend I'm in the book, and get lost in the book and forget about everything else.

A "superior" response is characterized by elaboration about the spare time activity, which may include details of the activity, reasons for enjoyment, personal experiences related to the activity, motivation for engaging in it, or circumstances affecting the activity. Sometimes descriptions are notable for their cohesiveness. The following is an example of a "superior" response:

> What I really like to do in my spare time is work, play with computers. I like to write programs and I like to run them and modify them. And why I like to do it is because it makes me think. It helps me break down the thought process as far as the way human beings think and it helps you think logically. I guess that is what I am trying to say. That is what I enjoy doing in my spare time.

Overall performance on the spare time activity task exceeds that on the movie or television show task (Table 8.8). Seventy-three percent of the simulation-task subsample give "adequate" responses and 8% give "superior" responses. In contrast, 35% of the oral-language-only sample are rated "3" and 5% are rated "4."

Task Accomplishment: Persuasive Speaking

Using speech to influence other people is probably one of the most complex communication tasks. The easier of the two persuasive tasks in the assessment is one that requires the respondent to convince someone to hire him or her for a restaurant job. This task requires the speaker to take the perspective of the potential employer and to provide reasons for hiring that might appeal to that person.

A "minimal" response presents only vague or egocentric reasons. Reasons such as "I need a job" are not considered adequate. A "minimal" response follows:

> I've come to fill out an application because I heard about a job. I would like to have a job in the kitchen, or whatever you have open. And I would like to have it. I just moved to Atlanta, Georgia, so I'm looking for a job. And I was wondering what kind of position do you have open? Do you have anything open?

A response is rated "adequate" if the speaker states at least one concrete reason, but does not provide much elaboration or adaptation. The following is an example of an "adequate" response:

> I'd like the job as a cook. I've had 2 1/2 years cooking experience and I have most of my own recipes. My hours are very flexible and I'm a decent human being.

A "superior" response goes one step further and either provides more elaboration or adapts the reasons to the perceived needs of the employer. To be rated a "4," the response must include at least two elaborations and/or adaptations. The following response was rated "superior" because it recognizes the employer's desire to make money:

> Well, I'd really like to apply for your waitress job. Of course if you don't have any left, I will take other ones. I think I'm most qualified for the waitress job. I have worked once before as a waitress in a very nice restaurant almost comparable to Steak and Ale. I get along with people very well. People like me and I think I'd be a good waitress and I think I can sell a lot of meals and make you some money.

Most of the simulation-task subsample provide an "adequate" response to the job interview task, whereas most of the oral-language-only group do not (Table 8.9). For the simulation-task subsample, 76% demonstrate an "adequate" response and 11% demonstrate a "superior" response. These percentages are high, considering the demands of this persuasive task. Apparently, the interview situation is one in which many young people have learned to communicate effectively. For the oral-language-only sample, only 25% provide an "adequate" response and none provides a "superior" response.

Table 8.9

Percentage of Young Adults at Each Level of Task Accomplishment for Persuasive Tasks+

	0/9/1 No Response/ I Can't Do/ Incomprehensible/ Off Task	2 Minimal	3 Adequate	4 Superior
Job Interview				
Oral-language-only sample	11.2 (5.0)	63.7 (9.4)	25.1 (7.3)	0.0 (0.0)
Simulation-task subsample	4.2 (2.0)	8.8 (2.3)	76.5 (3.2)	10.6 (3.1)
Opinion About Smoking				
Oral-language-only sample	10.0 (4.9)	42.2 (9.4)	46.6 (10.8)	1.3 (1.3)
Simulation-task subsample	2.5 (1.0)	24.3 (4.3)	63.8 (4.1)	9.4 (3.7)

+ For oral-language-only sample based on an N of 64 and weighted N of 224,779 and for simulation-task subsample based on an N of 208 and weighted N of 1,238,673.

The second persuasive task asks the respondent to give his or her opinion about whether there should be more restrictions on smoking in public places.

A response that mentions smoking or restrictions in general but does not take a position, or one that states an opinion but gives vague, circular, or conflicting reasons or no reason is rated "minimal." The following is an example of a "minimal" response:

> No, there shouldn't be any more restrictions than there already are.

An "adequate" response includes the person's opinion and at least one reason for that opinion. The following is an example of a "3" rating:

> Yeah, places that smoking should be prohibited are places that are confined like elevators, buses, places of transportation which has already happened pretty much in airplanes and stuff like that. But why? Because it's hazardous to other people, even the smoke that they're blowing out of their mouth and it's uncomfortable. I'm a non-smoker and I just don't like to smell like cigarettes and when I get into a confined area and someone's smoking it's very distasteful to me.

A "superior" rating is given to a response that uses more sophisticated persuasive techniques--such as evidence or emotional appeals--to support his or her opinion. The following response is rated "superior" because it successfully presents the view of the smoker and then shows why that view is wrong:

> I do believe there should be more restrictions on smoking in public, that I was once a smoker and when I was smoking I didn't really realize how much it was offending other persons. I was just interested in my own personal enjoyment. Now that I have stopped smoking I can realize how annoying smoke blowing around in an area, especially in a restaurant, can be. It can really disturb your eating habits. I feel that it is everyone's personal right to have clean air to breath or their personal right to smoke if they choose to do so. So I believe there should be strict regulations in the office place and especially in public areas stating where smoking should be permitted and not permitted so that everyone can live in harmony.

Even though this task is demanding, 64% of the simulation-task subsample provide an "adequate" response and 9% provide a "superior" response (Table 8.9). For the oral-language-only sample, 47% give an "adequate" response, and an additional 1% provide a "superior" response.

Background Characteristics

Some of the differences in performance between the two groups assessed may be associated with differences in background characteristics. While the size of each sample is too small for detailed analyses of proficiency by categories of background variables, examination of the distributions of the two groups across several background variables suggest factors that may influence performance. The tables that follow display distributions of the responses to several key background questions for the oral-language-only sample (64), the simulation-task subsample (208) and those remaining in the simulation-task full sample (3,266), who passed the core assessment but did not receive the oral-language assessment. As described earlier, the characteristics of the simulation-task subsample mirror those remaining in the simulation-task sample except for sex of the respondent which is not related to proficiency in this assessment.

One background characteristic that seems pertinent to oral proficiency is exposure to the English language. The language background of the oral-language-only sample and the simulation-task subsample is presented in Tables 8.10 and 8.11. Seventeen percent of the oral-language-only sample come from families where English was not spoken in the home while they were growing up, while 4% of the simulation-task subsample come from this type of home. Twenty-three percent of the oral-language-only sample come from families where Spanish was spoken in the home, while 12% of the simulation-task subsample come from this type of family.

Table 8.10

English Spoken in Home for Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Yes	No
Oral-language-only sample	82.6%	17.4%
Simulation-task subsample	95.9	4.1
Simulation-task full sample	95.1	4.9

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.11

Spanish Spoken in Home for Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Yes	No
Oral-language-only sample	23.1%	76.9%
Simulation-task subsample	12.1	87.9
Simulation-task full sample	15.6	84.4

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

In addition to language, the two groups differ in terms of sex, racial/ethnic background, education, occupation, and household income (Tables 8.12 through 8.18). The oral-language-only sample, as compared to the simulation-task subgroup, is more likely to be male, from a minority group, from a less educated family, have less education themselves, have a lower paying/lower status job, and have a lower household income. Estimates of proficiency on each of of the literacy scales indicates that with the exception of sex each of these variables is associated with lower performance. It seems reasonable to expect that these same factors may also be associated with lower proficiency on the oral assessment.

Table 8.12

Sex of Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Male	Female
Oral-language-only sample	61.5%	38.5%
Simulation-task subsample	36.7	63.3
Simulation-task full sample	49.3	50.7

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.13

Race/Ethnicity of Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	White	Black	Hispanic	American Indian	Asian	Unclassified
Oral-language-only sample	33.7%	48.1%	10.8%	0.0%	1.9%	5.5%
Simulation-task subsample	75.5	12.7	6.8	2.7	0.7	1.6
Simulation-task full sample	77.4	13.0	6.1	1.0	2.0	0.5

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.14

Education for Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Oral-language Only	Simulation-task Subsample	Simulation-task Full Sample
Less Than High School	13.1%	1.6%	1.8%
Some High School	39.9	15.2	13.3
High School Degree	34.6	34.8	33.1
Trade School	2.6	3.6	4.0
Less Than Two Years College	1.0	11.2	11.1
Two Year College Degree	1.9	3.0	4.0
Less Than Four Years College	1.3	9.9	16.7
Four Year College Degree	4.9	14.8	14.2
Some Postgraduate	0.0	4.3	1.2
Postgraduate Degree	0.0	1.6	0.6
No Response	0.6	0.0	0.1

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.15

Mother's Education for Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Oral-language Only	Simulation-task Subsample	Simulation-task Full Sample
Less Than High School	29.8%	8.5%	10.1%
Some High School	11.0	20.8	14.9
High School Degree	39.4	37.5	41.7
Trade School	0.0	8.4	4.2
Less Than Two Years College	0.0	4.5	4.8
Two Year College Degree	1.2	2.0	3.8
Less Than Four Years College	0.0	4.8	4.5
Four Year College Degree	2.1	10.2	8.4
Some Postgraduate	0.0	0.2	0.7
Postgraduate Degree	0.0	0.3	3.5
Unknown	14.4	2.8	3.4
No Response	2.1	0.0	0.2

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.16

Father's Education for Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Oral-language Only	Simulation-task Subsample	Simulation-task Full Sample
Less Than High School	20.0%	14.8%	14.4%
Some High School	26.6	13.0	13.3
High School Degree	20.7	27.6	31.5
Trade School	0.0	3.8	2.5
Less Than Two Years College	0.8	6.5	4.3
Two Year College Degree	4.9	0.9	2.3
Less Than Four Years College	1.3	6.0	4.2
Four Year College Degree	0.8	8.7	11.4
Some Postgraduate	0.0	1.0	1.1
Postgraduate Degree	0.0	7.1	7.7
Unknown	21.4	9.4	6.2
No Response	3.5	1.3	0.9

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.17

Occupation of Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Oral-language Only	Simulation-task Subsample	Simulation-task Full Sample
Manager	0.0%	12.2%	7.0%
Professional	5.9	14.5	8.6
Technical	0.8	6.5	6.2
Sales	4.2	10.6	11.6
Clerical	2.2	18.1	16.0
Craft	9.9	7.6	10.0
Operative	14.6	4.6	12.2
Service	20.3	17.6	20.2
Laborer	10.7	6.8	6.1
Never Worked/No Response	31.4	1.5	2.0

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Table 8.18

Household Income of Oral-language-only Sample and Simulation-task Subsample and Full Sample[+]

	Oral-language Only	Simulation-task Subsample	Simulation-task Full Sample
Less 5,000	28.7%	5.8%	6.2%
5-9,999	9.6	13.5	9.9
10-14,999	15.9	8.8	10.6
15-19,999	7.2	11.2	10.5
20-29,999	4.8	14.8	18.1
30-39,999	6.2	12.7	11.1
40-49,999	5.5	13.5	7.5
50,000 +	1.3	11.2	13.7
Refusal	0.0	0.4	1.2
I Don't Know	17.1	5.5	6.8
No Response	3.7	2.5	4.4

[+] For oral-language-only sample based on an N of 64 and a weighted N of 224,799, for the simulation-task subsample based on an N of 208 and a weighted N of 1,238,673, and for the simulation-task full sample based on N of 3,266 and a weighted N of 19,481,791.

Relationship Between Oral-Language Proficiency and Literacy

A natural extension of this investigation of oral-language proficiency is an examination of the relationship between oral-language proficiency and various types of literacy. This question can be explored by looking at the performance of the simulation-task subsample on the oral and the literacy tasks. Performance on the oral tasks was summarized by computing a mean across the ten task-accomplishment ratings. The mean was then correlated with scores on each of the four proficiency scales.

The results of the correlations between mean oral-task accomplishment and the four proficiency scales are presented in Table 8.19.

Table 8.19

Correlations between Mean Oral Task Accomplishment Rating and Literacy Scales[+]

	r	t[++]	p
NAEP Reading	.36	2.43	.02
Prose Literacy	.33	2.13	.04
Document Literacy	.38	2.71	.01
Quantitative Literacy	.37	2.35	.02

[+] Based on N of 208 and weighted N of 1,238,673.

[++] Two tailed t-test with 50 df; includes error component due to estimating scores as well as error component due to sampling.

The relationships are all low to moderate and statistically significant. While it might be expected that oral proficiency would be related with NAEP reading and prose literacy more than with document or quantitative literacy, the uniform results are not surprising. All of the literacy tasks involve using printed information in some form, and the intercorrelations among the scales range between .50 and .55. The results suggest that individuals who are competent in oral communication are probably competent in other forms of communication and literacy.

Summary

The oral-language assessment provides an important addition to our understanding of and knowledge about literacy. The results of the oral assessment indicate that on all tasks, the simulation-task subsample outperforms the oral-language-only sample. For less demanding tasks that require providing a single piece of information, the gap between the two groups is small. However, for most tasks that require expanded responses, the gap widens substantially.

In response to the question--"Are individuals who do not perform basic reading and writing tasks (oral-language-only sample) able to function effectively using spoken language?"--it appears that most perform very simple tasks adequately, but at most only half perform tasks that require more elaborate responses. In response to the question--"Are individuals who perform basic reading and writing tasks (simulation-task subsample) also able to function effectively using spoken language?"--it appears that most perform the oral tasks at an "adequate" level or better. Two notable exceptions are tasks that involve giving directions to a neighborhood grocery store and describing a movie or television show. Here, no more than half provide "adequate" responses.

The differences in performance noted between the two groups may be associated with differences in several background characteristics. The oral-language-only sample was more likely to come from homes in which a language other than English was spoken and from lower socio-economic and less educated backgrounds. For the simulation-task subsample, performance on the oral-proficiency tasks is positively associated with the four proficiency scales.

In sum, the results suggest that individuals who demonstrate limited literacy proficiency also demonstrate limited oral-language skill. It therefore, appears to be naive to think that individuals demonstrating low literacy proficiency can talk their way through life. Those who demonstrate higher levels of literacy proficiency are more likely to also demonstrate higher oral-language proficiency. However, even among those with basic literacy skills there are some who have difficulty performing important oral tasks.

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APPENDIX A

APPENDIX A

SAMPLING, WEIGHTING AND SAMPLE ERROR ESTIMATION

Eugene Johnson and Benjamin King

This appendix provides an overview of the procedures employed to obtain the sample of individuals whose responses to the literacy assessment form the basis for the results reported and the methodology and issues involved in extending the sample information to the population as a whole.

The Sample Design

This section provides an overview of the sample design, sample selection, and estimation of the probabilities of selection for the Young Adult Literacy Assessment. Further details on these activities can be found in the Technical Report provided by Response Analysis Corporation (1986).

The target population for the Young Adult Literacy Survey is the population of young adults in the continental United States who, at the time of the survey (April through September 1985), resided in private households (excluding group quarters) and who were between the ages of 21 and 25, inclusive. Throughout the remainder of this report, members of this target population will be called Young Adults. The goal of the sample design was to achieve a projectable sample of this target population and to oversample Blacks and Hispanics at approximately double the rate of the remainder of the population. A total of 38,400 housing units in 800 locations were screened for eligible respondents (Young Adults between the ages of 21 and 25) and a total of 3,618 assessments of Young Adults were conducted.

As an adjunct to the Young Adult sample, the 38,400 housing units were also screened for out-of-school 17-year-olds, which were defined to be high school dropouts born between October 1, 1967 and September 30, 1968. A total of 105 such individuals were assessed.

The Adult Literacy Survey used a 5-stage sampling design. The selection stages are: (1) Selection of the primary sampling units, (counties, groups of counties or MSA's), (2) Selection of secondary sampling units (roughly census tracts), (3) Selection of "blocks" (of contiguous housing units), (4) Selection of housing units, and (5) Selection of age eligibles within selected housing units.

First Stage Selection

The first-stage units of selection are Metropolitan Statistical Areas (MSA's) and counties. The frame was divided into three basic strata:

(A) Self-representing MSA's (the 25 largest)
(B) All other MSA's
(C) All non-MSA counties (or county equivalent)

All of the MSA's in the self-representing stratum were included in the sample. The units within each of the other two strata, smaller MSA's and counties, were ordered geographically and a systematic selection of 65 Primary Sampling Units (PSU's) was made. The probability of selection was proportional to the 1980 census population. If a selected county had a population less than 80,000 additional counties were added to this PSU until the aggregate size exceeded 80,000. These additional counties were always the succeeding counties on the ordered list and, for the purposes of deriving probabilities of selection, were treated as if they had been pre-linked to the initially selected county.

Second Stage Selection

The second stage unit, SSU, consists of groups of approximately 5000 persons defined in terms of contiguous block groups and can be roughly thought of as tracts, groups of tracts or segments of tracts. Within the self-representing stratum, these SSU's are actually the first stage units and were systematically selected with probability proportional to size (pps) with the denominator being the total 1980 population of the self-representing stratum. There are 520 SSU selections in total from this part of the frame.

Within the other two strata, the intention was to select 16 SSU's from each of the 65 PSU's. This would result in 1040 SSU's, for a total of 1560 SSU's (=1040 + 520). However, it was decided that the total number of SSU's in the sample should be 1600. To accomplish the selection of an additional 40 SSU's, 1/27 of the SSU's within each of the 65 PSU's was set aside into a special stratum. From the remaining 26/27 of each PSU, 16 PSU's were systematically selected with probability proportional to size, the denominator being the size of the PSU. From the 1/27 special stratum, 40 additional SSU's were selected and their PSU locations identified. This selection was also pps but the denominator was the achieved size of the special stratum. The result is an average of 16.61 SSU's selected from each of the 65 PSU's or 1080 in total.

Subselection of the SSU's to oversample Blacks and Hispanics. From the initial sample of 1600 SSU's, a final set of 400 SSU's was selected for the assessment. The selection was designed to effect an oversampling of Blacks and Hispanics at an approximate rate of 2 to 1. This selection was accomplished by:

1) Splitting the 1600 SSU's into two systematic halves.
2) Selecting a random interpretating fourth of 200 of the 800 SSU's from one half.
3) Ordering the 800 SSU's from the other half on the basis of % Hispanic and % Black and then dividing the set of SSU's into 10 strata on the basis of the % Hispanic and % Black.
4) Sampling from each of these strata at higher rates for the strata representing high percentages of Hispanics and Blacks. The sampling rates were set to produce a sample of 200 SSU's with disproportionately large concentrations of Hispanics and Blacks.

Third Stage Selection

The third stage unit was a "block" which corresponds to a collection of 48-200 contiguous housing units according to the 1980 census. Two "blocks" were selected from each of the 400 SSU's with probability proportional to the 1980 number of housing units. The number of households to be screened on each of the 800 selected "blocks" was 48. In 8 cases, the actual number of housing units actually found was less than 48. In those cases, a supplemental block was selected and the remaining number of households was screened on that block (all of the initial block was screened). For the purposes of deriving probabilities of selection, the supplemental block was treated as having been pre-linked to the selected block.

Fourth Stage Selection

The fourth stage unit was a household within a block. Within each selected block, 48 households were designated for screening. The probability of selection of a household is the ratio of 48 to the actual number of households in the block at the time of assessment. Field counts of the number of housing units on a block were made only in certain cases, primarily in SSU's where a relatively large change (more than 10%) in the number of housing units from the 1980 census figures was noted. In the remaining cases, where no field count was done, the number of housing units on the block was approximated by the 1980 census figure and the probability of selection of a household was based on this value.

Fifth Stage Selection

The final stage involved selecting an eligible respondent from the household, given that the household was represented as containing at least one age eligible. If more than one age eligible lived in the selected housing unit, a random selection table was used to select the particular eligible young adult to be assessed. The probability of selection at this stage is the reciprocal of the number of eligibles reported to be in the household.

Data Collection

Data collection activities were performed by Response Analysis Corporation field staff. An overview of the various procedures employed and results achieved are given in this section, further details on the various tasks can be found in the RAC Technical Report (1986).

Approximately 500 interviewers were employed to conduct the literacy assessments. Each interviewer was assigned one or more of the 800 locations ("blocks" within SSU's) and was responsible for:

1) creating a list of 48 housing units within the "block"
2) screening the 48 listed housing units for age eligibles
3) selecting an age eligible from each household containing at least one eligible, and
4) conducting a literacy assessment with each selected respondent.

Because these comprise fourth and fifth stages of selection of the sample, specific instructions were to be followed in accomplishing each of the above tasks.

The Listing Task

The first duty of an interviewer upon arriving at his assigned "block" (third stage unit) was to create a list of 48 housing units within that "block". The interviewer recorded the street address and a description of each housing unit, beginning at a specified location on the "block", and following the systematic sequence and detailed specifications contained in the Interviewer Instructions (attached as an Appendix). The interviewer stopped listing when 48 housing units had been listed. These 48 housing units constituted the fourth stage of selection of the sample.

In certain circumstances, the interviewer additionally counted all of the housing units on the block. This field count was done primarily when the block was in an area known to have experienced substantial change in makeup since the 1980 census (more than 10% change in the estimated number of housing units) although counts were made in other instances also. Field counts were performed in 156 of the 800 locations, in the remaining 644 locations no count of the current number of households was made and the 1980 census count of housing units was used to estimate the probability of selection of a household.

The Screening Task

Each of the 48 housing units listed in the location were screened to determine whether the household contained one or more eligible persons. At each household, the interviewer attempted to conduct a short screening interview with a member of the household, the interview form containing structured questions designed to obtain the names of all persons between the ages of 21 and 25 who usually lived in the household. (See Part II of RAC's Technical Report for an example of the Housing Unit Record Form which includes the questions). Another series of questions were used to identify any out-of-school 17-year olds residing in the household.

The interviewer was instructed to make up to 4 call-backs to a given household in the event that there was no one at home to report the eligibility status of the household. After the 4th attempt, the screening of the household was abandoned. This occurred in 79 cases. Screening was not completed in an additional 275 cases for other reasons. For details see Table 2 of RAC's Technical Report (1986).

Of the total of 38,400 assigned housing units, 2,416 were vacant and 430 were not housing units. Of the 35,554 non-vacant housing units, screenings were completed in 35,200, for a screener completion rate of 99%. One or more Young Adults were found in 4,494 of the 35,200 screened households for an eligibility rate of 12.8%. Further details on the completion rates, both overall and by region of the country, can be found in Tables 2 and 3 of RAC's Technical Report (1986).

The achieved incidence rate of Young Adults (21 to 25 years old) in the sample (12.8% of the screened households) is significantly lower than the national estimate of 18.6% (from the March 1984 Current Population Survey). The probable causes and implications of this discrepancy will be discussed in subsequent sections of this appendix.

Selection of an Eligible Respondent for Assessment

The interviewer's next task was the selection of a Young Adult for assessment in those households reporting the presence of at least one person between the ages of 21 and 25. In households with only one eligible, that individual was automatically selected for assessment. In households with more than one eligible adult, all eligibles were listed in a specified order, and the interviewer used a selection table to choose one Young Adult for assessment. Four different versions of the selection table were used, these versions being rotated in each interviewer's assignment. The procedures were designed so that respondent selection would be random and systematic and so that the interviewer would have no discretion in the selection of participants to the assessment. An example of the selection table is included in the Housing Unit Record.

All eligible out-of-school 17-year olds were selected for assessment, regardless of how many there were and regardless of whether or not there was an eligible adult in the household.

Assessment of an Eligible Individual

The interviewer's final task was to attempt to complete an assessment with each selected individual. Of the 4,494 Young Adults who were selected for assessment, interviews were completed on 3,618, for an assessment completion rate of 80.5%. (Breakouts of the number of nonrespondents by type are presented in Tables 2 and 3 of RAC's Technical Report (1986). The assessment completion rate for out-of-school 17-year olds was 84% (105 assessments were completed out of a total of 125 identified eligibles).

The actual process of assessment consisted of three phases. The first phase of assessment involved administration of a Background and Attitude Questionnaire. In the 80 cases where the respondent was Spanish-speaking and not fluent in English, a Spanish Language version of the questionnaire was administered. The remaining 3,538 respondents were administered the questionnaire in English.

The second phase of the assessment required the selected individuals to respond to the nine items in the questionnaire measuring core literacy skills. If the respondent answered three or more of the first seven core items correctly, the interviewer proceeded to administer the third phase of the assessment. If the respondent answered fewer than three items correctly, the interviewer administered an oral language interview and terminated the assessment. This happened in 64 cases. The 80 Spanish-speaking respondents, who were not fluent in English, had a Spanish Language version of the core administered. An oral language interview in English was attempted with these respondents, after which the assessment was terminated.

The third phase of the assessment, the administration of simulation tasks, was conducted with the remaining 3,474 respondents (who passed the core in English). This phase of the assessment involved the presentation of a subset of the total set of simulation tasks to each respondent and is the topic of the subsequent section on BIB spiralling for item administration.

Quality Control

A variety of checks were performed to verify the quality of each interviewer's work. These checks included:

1) verification that the listed households were in the specified area
2) verification that key background information had been obtained, and
3) verification that the core items had been correctly scored and that an adequate number of the simulation tasks had been completed.

Additionally, at least 25% of each interviewer's completed assessments were verified by calling the respondent and re-asking certain background and attitude questions. There was no verification of the eligibility status of households which were reported by the interviewer to have no eligibles.

Further details on quality control procedures appear in the Appendix.

BIB Spiralling for Item Administration

The basis for the measurement of literacy skills is a pool of 105 cognitive items. Although these items form the basis for the various literacy proficiency scales (chapter III), it is not necessary or even desirable that each assessed individual respond to the entire battery of items. Firstly, such a request would require a substantial investment of the respondent's time, to the extent that a high rate of refusal to participate in the assessment would be expected. Secondly, the Young Adult Literacy Survey is an assessment and not a test. The goal of an assessment is to provide measures of proficiencies for defined subgroups of the population. To accomplish this goal, there is no need for a precise measure of proficiency for any individual. This means that it is not necessary that each individual take all items and in fact, for the goals of an assessment, it is more efficient in a statistical sense if each person takes only a selected subset of the items.

The assignment of items to individuals was accomplished by a powerful variant of matrix-sampling techniques called Balanced Incomplete Block (BIB) spiralling. With this procedure, the total pool of 105 cognitive items was divided into 7 blocks where each block of items required approximately 17 minutes of assessment time. Each respondent was administered one of seven booklets in which each booklet consisted of three of the blocks of items plus the core. The assignment of blocks of items to booklets was done according to the following balanced incomplete block experimental design:

Booklet	Block		
1	1	2	4
2	2	3	5
3	3	4	6
4	4	5	7
5	5	6	1
6	6	7	2
7	7	1	3

This assignment of blocks of items to booklets has several important characteristics:

1) Each block appears equally often (in 3 of the 7 booklets).
2) Positional effects are controlled for (at the block level) since each block appears once in each of the three possible positions in a booklet.
3) Every pair of blocks appear together in exactly one booklet.

The spiral part of BIB spiralling cycles the booklets for administration to the respondents in the following manner. Each interviewer was given a randomized starting number from 1 to 7 which specified the particular booklet to be given to the first respondent. The assignment of booklets to subsequent respondents within the same block was accomplished by cycling through the booklets in sequential order.

One result of the BIB spiralling method of assignment of subsets of items to respondents is that every item is taken by a randomly equivalent subsample of the total sample of respondents (on average 3/7 of the total sample). This means that reliable estimates of performance for the population as a whole can be derived for any item. Another result of this method is that every pair of items is taken by a representative subsample of the respondents (on average 1/7 of the total for items in different blocks) so that relationships between any pair of items can be estimated.

Use and Computation of Respondent Weights

Introduction

As is the case of many large scale sample surveys, the Young Adult Literacy Assessment has a complex sample design. This design is created to satisfy two contradictory goals. The first and foremost goal of any sample survey is to obtain a sample which allows reasonably precise and unbiased estimation of various population and subpopulation characteristics. Balancing this goal is the necessity that it be economically feasible to obtain the sample.

To satisfy these goals, the Young Adult Literacy Assessment used a multistage cluster sample design (previously discussed) in which the probabilities of selection of the clusters was proportional to their size. Additionally, to ensure adequate precision in the estimation of characteristics of Black and Hispanic Young Adults, the sample design included provisions for sampling such individuals at a higher rate. The result of these differential probabilities of selection is an achieved sample containing proportionately more Blacks and Hispanics than there are in the population.

Appropriate estimation of population characteristics must take this disproportional representation of the various subgroups in the sample into account. This is accomplished by assigning a weight to each respondent, where the weights properly account for the sample design and reflect the appropriate proportional representation of the various types of individuals in the population of Young Adults.

The use and estimation of respondent weights for the sample of Young Adults is the topic of the remainder of this section.

Although 105 out-of-school 17-year olds were also assessed as an adjunct to the Young Adult Literacy Assessment, the characteristics of the sample design and the small achieved sample size precludes the reliable estimation of useful weights for this population.

Use of Weights in the Estimation of Population Characteristics

Before discussing the estimation of weights some discussion of how they are used is in order. The goal of a sample survey, such as the Young Adult Literacy Assessment is to provide estimates of various characteristics, both for the target population of Young Adults as a whole as well as for various subgroups of this population (e.g., Young Adults who are Hispanic and who completed high school).

Among other characteristics of interest are:

1) the total number of Young Adults of a specified type
2) the relative proportion of Young Adults of a given type in the population of all young adults
3) the average proficiency level for a specified subgroup

The respondent weight associated with each Young Adult assessed allows the estimation of the above statistics. For example, the total number of Young Adults in the population as a whole is the sum of the weights across all respondents:

$$N\ (\text{all}) = \sum_{i=1}^{n} W_i$$

where N (all) is the estimated total number of Young Adults in the population, n = 3,618 is the total number of respondents and W_i is the weight for the ith respondent. As another example, the total number of Young Adults who are also Hispanic is the sum of the weights across all Hispanic respondents:

$$N\ (\text{Hispanic}) = \sum_{i=1}^{n} W_i\ I\ (\text{respondent } i \text{ is Hispanic})$$

where I ( ) is an indicator function taking the value 1 if the statement in parenthesis ("respondent i is Hispanic" in this case) is true and taking the value 0 otherwise.

In general, an estimate of the total number of Young Adults in the population as a whole who possess some characteristic is obtained by summing the weights of all respondents who have that characteristic.

For these estimated totals to be useful and not misleading, it is important that these totals be "close" in some sense to the true population values. The ultimate respondent weights which are used for all analyses are likely to satisfy this requirement. Details and considerations involving these weights appear in the succeeding sections.

Before addressing the estimation of respondent weights, we note the statistics which are used to estimate the other two above listed characteristics of interest: proportions and means.

As an example of a proportion, it is clearly of interest to estimate the relative proportion of Young Adults who can correctly respond to a given cognitive item. This proportion is estimated from the sample by the (combined) ratio estimate:

$$P(j) = \frac{\sum_{i=1}^{n} W_i\ I\ (\text{respondent } i \text{ correctly answers item } j)}{\sum_{i=1}^{n} W_i}$$

which is the weighted relative proportion of the sampled individuals who correctly responded to item j.

As an example of a mean, the estimated mean proficiency value for a given scale for all Young Adults is

$$X(\text{all}) = \sum_{i=1}^{n} W_i X_i / \sum_{i=1}^{n} W_i$$

where X_i is the proficiency value for the ith respondent.

X (all) is the weighted mean of the proficiency values of the sampled individuals.

Estimated proportions and means for a specified subgroup of the population are obtained by appropriately restricting the summations to the respondents of that subgroup.

Estimation of Respondent Weights

The base weight. The starting point for the estimation of respondent weights is the classical (Horvitz-Thompson) procedure in which the weight assigned to a respondent is the reciprocal of the probability that the respondent was selected for assessment. Since this weight is the basis of the final respondent weight, it is called the base weight.

The base weight W_i of the ith respondent is the product of 5 factors:

$$W_i = W_{i1} \ W_{i2} \ W_{i3} \ W_{i4} \ W_{i5}$$

where W_{i1} is the reciprocal of the first stage probability of selection of the PSU containing the respondent, W_{i2} is the reciprocal of the second stage probability of selection of the respondent's SSU (given selection of the respondent's PSU), and so forth: W_{i3} relating to the third stage selection (block in SSU), W_{i4} to the fourth stage selection (household in block) and W_{i5} to the fifth stage selection (respondent in household). The computations of these various probabilities have been indicated previously in the section on sample design. Further details on these probabilities and the components of the base weight can be found in RAC's Technical Report (1986).

If the sample had full response, precisely known probabilities of selection, and no nonsampling error, the base weight would be an appropriate weight to use for analysis. In particular, in such a situation, the sum of the base weights across all respondents would provide an unbiased estimate of the total number of age eligibles in the population as a whole. Additionally, the sum of base weights across all respondents of a specified type is an unbiased estimator of the number of eligibles of that type in the population.

Unfortunately, there is non-response, some selection probability factors were estimated, and improper field procedures produced a sample with a low rate of eligibles (relative to external information). One consequence is that the sum of base weights of the respondents provides a serious underestimate of the total number of age eligibles in the population. In order to at least partly counteract the effects of the various imperfections of the achieved sample, a number of adjustments of the base weights were performed.

Adjustment for Non-Response

The assessment of Young Adults had a 19.5% nonresponse rate, the major cause of nonresponse being refusal to participate (581 of the total of 876 nonrespondents). This nonresponse rate was roughly constant across ethnic categories and most regions of the country, although a poorer response rate (75%) was experienced in the Northeast (see Table 3 of RAC's Technical Report (1986).

To adjust for nonresponse, the base weights of the respondents were inflated by a nonresponse adjustment factor. The nonresponse adjusted weight for respondent i is

$$W_{iNR} = f_{PSU} W_i$$

where W_i is the respondent's base weight and f_{PSU} is a PSU level adjustment defined as

$$f_{PSU} = (\text{\# eligibles found in the PSU})/(\text{\# completed interviews in the PSU}).$$

(For the self-representing PSU's, the adjustment was actually applied at the second stage zone level, which is a portion of the MSA. A better adjustment would have been obtained as the ratio of sum of the base weights of all eligibles in the PSU to the sum of the base weights of all respondents in the PSU - this adjustment accounting for the differential probabilities of selection of SSU's, blocks, households and eligibles within the PSU. Some of the effect of using f_{PSU} rather than the most precise adjustment is counteracted by the ratio and post-stratification adjustments to the weights to be discussed next.

The practical consequence of the nonresponse adjustment to the weights is that the distributions of characteristics of the pool of nonrespondents within a PSU (e.g., performance, demographics) is implicitly assumed to be the same, on average, as the equivalent distributions for the respondents within the PSU. That is, the causes of nonresponse are in effect assumed to be ignorable so that, after appropriate adjustments of the weights, the pool of respondents can be fairly considered as a representative sample of the total population of Young Adults. The consequences of this assumption and rationales for arguing its approximate validity will be given later in the section on Nonsampling Error.

Adjustment for Approximations in Probability of Selection

Because of certain features of the design of the Young Adult Literacy Survey, the computation of the true probabilities of selection of the various units into the sample is complicated. In fact, computing the exact probabilities of selection in each of the first four stages of selection requires the enumeration of the enormous number of potential samples which could have been obtained. As a consequence, the probabilities of selection have been approximated in certain instances. The various instances and approximations made were indicated in the section on Sample Design. We judge the combined effect of the various approximations to be small and believe that many of the effects of the approximations have been adjusted for by the following ratio adjustment to known totals and by the subsequent post-stratification adjustments.

Because the probabilities of selection through the selection of the final sample of 400 SSU's are based on 1980 population figures, we can derive estimates of the 1980 population (of all people in the Continental United States) from the sample by summing the ratios of the known 1980 SSU population to its stated probability of selection. If the probabilities were exactly correct, we would recover the 1980 population totals. In fact, the estimates are close, but low, the values by primary strata being:

	Sample Estimate	Census	Ratio
Self Representing	71,966,266	72,980,938	1.01409
Non-SR MSA	97,084,167	98,199,538	1.01149
Non-MSA Counties	52,235,908	53,998,524	1.03374
Total	221,286,700	225,179,000	

The discrepancies are due to the various approximations in the probabilities of selection. To adjust, approximately, for the combined effect of the approximations in the probabilities of selection through the SSU level, the sampling weights were uniformly boosted within strata by the ratios indicated in the last column of the above table.

Adjustment of Weights by Post-Stratification to Known Marginal Totals

As in most sample surveys, the respondent weights are random variables which are subject to sampling variability. Even if there were no nonresponse and all probabilities of selection were exactly known, the respondent weights would at best provide unbiased estimates of the various subgroup proportions. However, since unbiasness refers to average performance over a conceptually infinite number of replications of the sampling, it is unlikely that any given estimate, based on the achieved sample, will exactly equal the population value. Furthermore, factors such as differential response rates may be in operation implying that the population of inference (the population to which the sample can legitimately be projected) differs to some degree from the target population. (If such is the case, the difference appears small - see the section on Non-sampling errors for discussion).

To adjust for any such effects and to further adjust for approximations in the probabilities of selection, the weights were adjusted by post-stratification (by iterative proportional fitting) to known marginal totals (from the CPS). The margins that were adjusted were race, census division, sex and age.

The known marginal totals (which are also actually sample survey estimates) were derived from data from the March 1984 Current Population Survey (CPS), the most current information at the time. In generating the marginal totals from the CPS, an attempt was made to filter the CPS data file so that the totals reflected the target population of the survey (specifically, persons in group quarters or not in the Continental United States or not of the specified age range were removed).

The forcing of the sample marginal weighted totals to the CPS marginal totals was accomplished by iterative proportional fitting. In this technique, the sample weighted totals for each margin in turn are forced to correspond to the target values. For example, the sex marginal totals for the sample are made to correspond to the corresponding CPS totals by multiplying the weight of each male respondent by the factor f_M and the weight of each female respondent by the factor f_F where

$$f_M = (\text{CPS total number of males})/(\text{sum of weights of all males})$$

and f_F is similarly defined for females. The marginal totals for the next dimension (say race), using the sex-adjusted weights, are then adjusted in the same manner. The process continues, cycling through sex, race, census division and age, until no further significant adjustments in the weights can be made.

The result of this process is the final set of respondent weights whose marginal totals agree with the CPS estimates and, subject to these marginal constraints, whose joint distribution is close in a certain sense to the joint distribution of the sample weights before adjustment. Specifically, for given sample weights W_i, iterative proportional fitting seeks to obtain adjusted weights $\hat{W}_i$ which satisfy the marginal constraints while minimizing the weighted least-squares discrepancy measure:

$$\sum_{i=1}^{n} \frac{(W_i - \hat{W}_i)^2}{W_i}.$$

The rational for this measure is that the sampling error for the weights is roughly proportional to their size so that larger weights are more variable. For a further discussion see Deming* (1964).

There is an important consequence of this post-stratification to known marginal totals (as opposed to proportions). Prior to this adjustment (but including the other adjustments), the sum of the sampling weights of the respondents to the survey was 12.3 million as compared with the CPS estimate of 21.1 million. Since the sum of sampling weights should provide an estimate of the population total, this represents an underestimate of nearly 43%. The probable causes of this underestimate are discussed in the next section. By forcing the marginal totals to correspond to the CPS totals, the sum of the respondent weights have been forced to the CPS total. The consequences of this boosting of weights are discussed in the succeeding section on non-sampling errors.

Underestimation of the Number of Young Adults

The fact that the sampling weights (before final post-stratification to known totals) produce a 43% underestimate of the total number of Young Adults in the population is cause for some concern. This section discusses the causes, the next section the consequences.

It is our belief that this underestimation is primarily reflecting failures in the field to identify all eligible individuals. The underestimation has been largely isolated to the field procedures on the basis of the following observations:

1) The sample design and field procedures are adequate through the selection of a household, and the probabilities of selection through that stage are appropriately computed. Corroborating evidence of this is that various key population totals can be recovered by use of the computed probabilities. (Further details appear in RAC's Technical Report.) In particular, it is possible to closely estimate the total population (of the Continental United States of all ages) and the total number of households in the Continental United States.

2) The (unweighted) percent of eligibles found in the Young Adult Literacy Sample is 12.8%, which is based on the 4,494 households reporting eligibles out of the 35,200 housing units (including vacants) in the sample. The corresponding (March 1984) CPS estimate of the incidence of households containing one or more eligibles is 18.6%. Thus, the achieved incidence rate from the sample is of the order of 43% too low (weighting not taken into account).

3) The first question asked by the interviewer on contacting a selected household is:

   "First, does anyone usually live in this household who is between the ages of 21 and 25?"

   If the answer was no, the interviewer asked if anyone who usually lived there was between 21 and 25 but was away temporarily. If the answer to this was no, the interview was terminated.

   This technique allows an easy out for anyone who is in the stated age range who does not wish to participate in the survey. It also provides an easy out for an interviewer faced with a difficult-to-screen household.

4) Among households which reported at least one eligible, the distribution of households by number of eligibles closely agrees with CPS figures as shown in the table below.

Distribution of number of eligibles in a household given the household contains at least one

	Percent of Household	
Number of Eligibles	Adult Literacy Sample	CPS
1	75.2	75.7
2	22.1	22.5
3	1.9	1.7
4+	.7	.1

The implications of the above observations is that apparently a large fraction of eligibles were missed in the assessment. The probable consequences of this are discussed in the next section.

Non-Sampling Error and the Consequences of Nonresponse and Underenumeration

The goal of the Young Adult Literacy Assessment, (as in the case for any sample survey) is to allow valid inferences to be made about the literacy characteristics of the population of Young Adults in the Continental United States. For these inferences to be valid it is important to account for the fact that the basis of information is obtained from the observed data from the achieved sample. Because the data come from a sample, they are subject to various amounts and sources of uncertainty which may be broadly divided into two basic types:

1) uncertainty due to sampling variability measuring the dependence of the results on the particular sample achieved as opposed to the results from a different sample which might have been obtained by use of the same sample design and field procedures.

2) uncertainty due to other causes including errors of measurement, nonresponse and underenumeration.

The estimation of sampling variability is discussed in the next section.

Measurement error arises in the Young Adult Literacy Survey in the estimation of levels of proficiency because these estimates are based on responses to the handful of cognitive items taken by each respondent. Estimation of this uncertainty arising from this source of error is discussed in the section on Scaling and Scoring procedures (Appendix B).

This section discusses the potential error due to nonresponse and underenumeration. The validity of projecting results from a sample of individuals to the population as a whole in the face of nonresponse and underenumeration depends on the characteristics of missed people. As noted by Cochran (1977), to assess the potential impact of nonresponse and underenumeration (which is a type of nonresponse), it is helpful to think of the target population as divided into two strata,

1) the "respondent stratum" consisting of all Young Adults who would have been identified as eligibles by the field methods actually used and would have been assessed had their households been selected as part of the sample.

2) the "nonresponse stratum" consisting of the remaining Young Adults in the population who would have been missed because of nonresponse or improper screening.

The results from the achieved sample are properly projectable to the "respondent stratum" of the population. The degree to which the results also apply to the "nonresponse stratum" of the population depends on how similar those individuals are to the population of eligibles represented by the sample.

While we cannot know the precise characteristics of these missed people, we can reasonably argue that, at least in terms of certain characteristics, they are not greatly dissimilar to the population in the "respondent stratum." This argument is based on two considerations.

1) The underenumeration appears to be largely due to failure to identify eligibles within the selected households. Upon initial screening contact with the household to determine its eligibility status, the interviewer never mentions that the purpose of the survey is to conduct an assessment of literacy. This suggests that the reasons for this type of nonresponse may be due to factors other than the literacy of any unreported eligibles in the household. To the extent that these factors are unrelated to literacy, the distribution of levels of proficiency for this group of nonrespondents should be comparable to that of the respondents.

   This argument does not hold for the group of nonrespondents who were identified as eligible but refused to participate in the assessment after being informed of the nature of the survey. This group constituted 13% of the total number eligibles located. However, interviewer reports indicate that a large portion of the refusals occurred in the more affluent areas, the major reason for refusal being unwillingness to spend the necessary time for the assessment. This would imply that estimates of literacy are downward biased, the magnitude of which depends on the difference in literacy of the affluent and non-affluent groups. Nevertheless, with an 80% response rate the bias in percentage points cannot be great.

2) The estimated distribution from the sample, using the sampling weights (before post-stratification), compares well with the CPS values for a number of key demographic variables. Table 1 shows the comparisons of the weighted sample and CPS marginal distributions for sex, age, race/ethnicity, census division, education and personal income. For the most part, the differences in the relative frequencies between Young Adult Sample and the CPS sample are within the bounds to be expected given sampling variability.

A word of final caution: because the nonresponse stratum referred to above consists of about half of the target population, extreme care must be exercised in estimating quantities whose values may be associated with the fact of underenumeration or non-cooperation. The bias of any estimate will be approximately one half the difference of the corresponding population values for the two strata. Thus, if that difference is great, the bias could be nontrivial.

Table 1

Comparisons Between the Achieved Sample and the CPS on Certain Demographic Characteristics

	Sample Weighted Relative Frequency (%)	Relative frequency from the CPS (%)	Difference
SEX			
Male	47.0	49.1	-2.1
Female	53.0	50.9	2.1
AGE			
21	22.7	19.4	3.3
22	20.0	20.6	- .6
23	19.8	20.2	- .4
24	21.0	19.5	1.5
25	16.4	20.3	-3.9
RACE/ETHNICITY			
Hispanic	7.0	7.0	0
Black	13.8	13.2	.6
White & Other	79.2	79.8	- .6
CENSUS DIVISION			
New England	8.9	5.2	3.7
Mid Atlantic	15.5	15.0	.5
EN Central	18.1	18.2	- .1
WN Central	8.5	7.5	1.0
S Atlantic	15.0	15.9	- .9
ES Central	5.0	6.1	-1.1
WS Central	10.5	12.1	-1.6
Mountain	4.6	5.4	- .8
Pacific	13.9	14.6	- .7
EDUCATION			
0-8	2.2	3.0	- .8
some HS	13.6	12.1	1.5
HS & Voc Ed	37.0	39.5	-2.5
Post HS	47.1	45.4	1.7
PERSONAL INCOME			
0-4999	39.5	39.5	0
5000-9999	21.8	24.3	-2.5
10000-14999	20.1	19.5	.6
15000-19999	10.4	9.5	.9
20000-29999	7.0	5.9	1.1
30000+	1.1	1.4	- .3

Estimation of Uncertainty due to Sampling Variability

Introduction

A major source of uncertainty in the estimation of the value of a variable of interest (e.g., proficiency) in the population is uncertainty due to the fact that information about the variable is obtained only on a sample from the population. In order to reflect this fact, it is important to attach to any statistic (e.g., a mean) an estimate of the sampling variability for that statistic. (The estimation of variability due to imperfect measurement and other non-sampling errors is also essential and was discussed in the previous section).

Estimates of sampling variability are designed to provide information on how much a given statistic would be likely to change in value if it had been based on another, equivalent sample of individuals, this sample being drawn in exactly the same manner as the achieved sample in hand. Because of this, the estimation of the sampling variability of any statistic must take the design of the sample into account.

The Young Adult Literacy sample is obtained via a stratified multi-stage probability sampling design which includes provisions for sampling certain subpopulations at higher rates. Additional characteristics of the sample are adjustments for nonresponse and post-stratification adjustments. This results in a sample which has very different statistical characteristics than those of a simple random sample. In particular, because of the effects of cluster selection and because of effects of nonresponse and post-stratification adjustments, observations made on different respondents cannot be assumed to be independent of each other (and are, in fact, generally positively correlated). Furthermore, to account for the differential probabilities of selection (and the various adjustments), each respondent has an associated sampling weight, which must be used in the computation of any statistic and which is itself subject to sampling variability.

The consequence of ignoring these features of the sample design and proceeding as if the data were a simple random sample is to produce estimates of sampling variability which tend to be underestimates of the true variability.

Linear and Nonlinear Estimators

The statistics which are obtainable from the sample can be grouped into two major types: linear and nonlinear estimators. This grouping has implications for variance estimation.

For definiteness in what follows, let $t(\underline{y}, \underline{w})$ be any statistic which is a function of the sample responses $\underline{y}$ and the weights $\underline{w}$ (both vectors). The statistic t provides an estimate of some population value of interest T. For example, t could be a sum of weights over respondents of some subgroup, this sum estimating the total number of Young Adults in the population who belong to that subgroup. A sum of weights is an example of a linear estimator. The estimation of sampling variability of linear estimators is a major topic of most textbooks on sampling.

Because the respondent weights are subject to sampling variability, many of the commonly used statistics are nonlinear estimators. Examples of nonlinear estimators include many statistics which, apart from the presence of the weights, would be linear. For example, a weighted mean or weighted proportion, where the weights are the respondent sampling weights, are nonlinear estimators, being ratios of pairs of weighted totals. The nonlinearity (in the observations) of these estimators complicates the evaluation of their sampling variability. The common approach in the case of nonlinearity is to employ some linearization process to enable the use of variance estimation techniques appropriate for linear estimators. This produces a typically consistent, but biased, approximation to the variance of the nonlinear estimator.

The sampling variability of the nonlinear estimates from the Young Adult Literacy Survey is estimated by a jackknife procedure, which can be viewed as a type of linearization. The particular jackknife methodology used will be detailed below.

A property of jackknife methodology is that, when properly applied, a jackknife estimate of the variability of a linear estimator will produce the same result as the standard textbook variance estimate. Because of this property, approximate characteristics of the jackknife estimator in the nonlinear situation (to a first-order degree of approximation) can be inferred from the characteristics in the linear situation.

Accounting for the Effects of Clustering, Stratification and Systematic Selection

A key feature of the Young Adult Literacy Survey Sample is that it was selected in stages where the selection at a given stage produced a sample of clusters of individuals, those selected clusters being nested within the clusters of individuals selected at the previous stage. Specifically, the first stage of selection produced a sample of PSU's which correspond to counties, groups of counties, or (in the case of the 25 largest MSA's) portions of an MSA. The second stage of selection was within the selected first stage units and produced a sample of SSU's (roughly census tracts). The third stage selected blocks (or groups of blocks) within the sampled SSU's, the fourth stage selected households within the sampled blocks, and the fifth stage selected individuals within the sampled households.

Because of this cluster sampling, the variance of any estimator t is composed of components of variability due to each of the stages of selection. Furthermore, this variance should account for the fact that the selection of the units at any stage (but the last) is by systematic sampling with probabilities proportional to size.

Appropriate estimation of the sampling variability of a linear estimator is aided by the remarkable and convenient fact that a variance estimate based on between PSU component of the variability (assuming sampling with replacement and the same inclusion probabilities) appropriately accounts for all within PSU components of variance and that any bias in estimation occurs in the between PSU component of variance. (For a discussion see Wolter, 1985, section 2.4.5.)

Estimation of the sampling variability of a linear statistic t thus comes down to the appropriate estimation of the between PSU component of variability. The sample of PSU's was obtained by systematic sampling with inclusion probability proportional to size -- which is a widely used method to obtain a pps (without replacement) sample. Since the selection was based on geographically ordered lists of PSU's within the three major size strata (self-representing MSA's, other MSA's, other counties), this produced a sample with a reasonable geographic representation. Strictly speaking, however, it is not possible to obtain an unbiased estimate of sampling variability from such a sample.

For the purposes of variance estimation, we have followed the common practice of pairing the PSU's in a manner consistent with the sample design and then regarding each pair as members of a pseudostrata for variance estimation purposes. This results in a set of PSU pairs where the PSU's within a pair are both from the same size strata and tend to be geographically close to each other. More details on the pairing appear in the Response Analysis Corporation Technical Report.

Estimation of Variability of Any Statistic by the Jackknife

We now turn to the general procedure used by ETS to estimate the sampling variability of any statistic t ($\underline{y}$, $\underline{w}$) which is a function of sample values $\underline{y}$ and weights $\underline{w}$ and which may be either a linear or a nonlinear estimator. As noted above, this is done by a jackknife procedure.

As was commented in the last section, for the estimation of the sampling variability, it is sufficient to restrict one's attention to the estimation of variability attributable to each of the 50 pairs of PSU's in the sample. The jackknife method estimates the sampling variability of any statistic as the sum of components of variability which may be attributed to each of the PSU pairs. The variance attributed to a particular PSU pair is measured by estimating how much the value of the statistic would change if the information embodied in the PSU pair were to be changed.

This is done by the computation of a quantity t_i called a pseudo-replicate, which is associated with the ith PSU pair, and which is a certain estimate of the statistic of interest t. Specifically, the ith pseudo-replicate of the statistic t is created by eliminating the data from the first PSU of the pair, replacing the lost information with that from the second PSU of the pair (so that the second PSU is included twice), and then re-estimating the statistic based on this altered set of data.

The jackknife estimate of the variability of the statistic t used by ETS is the sum of the squared differences between each pseudoreplicate and the overall value:

$$\hat{\mathrm{Var}}(t) = \sum_{i=1}^{50} (t_i - t)^2$$

where M is the number of PSU pairs.

It should be noted that there are a variety of alternative jackknife estimates of variance available in addition to one given here (see Wolter, 1985).

In particular, two commonly used jackknife estimators are

$$1/2 \left(\sum_{i=1}^{50} (t_i - t)^2 + \sum_{i=1}^{50} (t^*_i - t)^2\right)$$

and

$$1/4 \left(\sum_{i=1}^{50} (t_i - t^*_i)^2\right)$$

where t^*_i is an analogous pseudo-replicate to ti formed by eliminating the second PSU of the pair and double counting the first.

In the case of a linear estimator, all of these methods will produce the same result. Furthermore, in the case of the estimation of sampling variability of a ratio estimate (such as a weighted mean), Monte Carlo experimentation based on a similar type of sample (the Year 15 National Assessment of Educational Progress Design) indicated trivial differences in the three estimates. (See Lago, Burke, Tepping and Hansen, 1985). The ETS estimator $\hat{\text{Var}}$ (t) requires half the computations of the other estimators, at apparently minimal loss (in terms of variability of the variance estimator).

References

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APPENDIX B

APPENDIX B

SCALING AND SCORING PROCEDURES

Robert Mislevy

Introduction

The NAEP literacy assessment of young adults gathered data on the proficiencies of sampled respondents by means of over a hundred separate cognitive exercises ("items"). While detailed information is provided for each individual item on the public use data tape, summary statements about levels of proficiency as more generally defined are obviously required for effective communication of major results. The assessment of young adult's matrix-sampling design, because it presents different items to different respondents, proscribes the use of average percents-correct over items. In this way it parallels the 1983-84 NAEP assessment of reading achievement. As in the reading assessment, the reporting problem has been handled through the use of item response theory (IRT) psychometric models (Lord, 1980). This section describes the models and procedures that were used to this end.

Item Response Theory

At the heart of item response theory is a mathematical model for the probability that a particular person will respond correctly to a particular item from a specified domain of items. This probability is given as a function of a parameter θ characterizing the proficiency of that person, and one or more parameters characterizing the properties of that item. The specific IRT model employed in the young adult assessment was the three-parameter logistic model:

$$P(x_{ij} = 1|\theta_i,a_j,b_j,c_j) = c_j + (1-c_j)/\{1+\exp[1.7a_j(\theta_i-b_j)]\},$$

where

x_{ij} is the response of pupil i to item j, 1 if correct and 0 if incorrect,

θ_i is the (unobservable) proficiency of pupil i,

a_j is the slope parameter of item j, characterizing its sensitivity to proficiency,

b_j is its threshold parameter, characterizing its difficulty, and

c_j is its lower asymptote parameter, reflecting possibly non-zero chances of correct response from even persons of very low proficiency.

A domain of items over which performance is modeled, and the accompanying proficiency variable, are referred to as a "scale." Analyses within a scale are generally carried out in two steps: First, the parameters of the items are estimated. Secondly, estimates of individuals' or groups' levels of proficiency are estimated with the item parameter estimates treated as known parameter values.

Note that a linear indeterminacy exists with respect to the values of θ_i, a_j, and b_j for a scale defined under the three-parameter model. That is, for an arbitrary linear transformation of θ, say $\theta^* = M\theta + X$, the corresponding transformations $a_j^* = a_j/M$ and $b_j^* = Mb_j + X$ lead to

$$P(x_{ij} = 1 | \theta_i^*, a_j^*, b_j^*, c_j) = P(x_{ij} = 1 | \theta_i, a_j, b_j, c_j).$$

Arbitrary selections of an origin and unit-size for θ are needed to resolve this indeterminacy.

Specification of Scales

A unidimensional IRT model like the three-parameter logistic model employed in this study assumes that performance on all the items in a domain can be accounted for, for the most part, by a single (unobservable) proficiency variable. The content of the assessment items suggested the use of multiple scales, allowing for the possibility of different patterns of proficiency on different types of literacy tasks. The following four scales were delineated:

Scale	Description	Number of Items
1	NAEP Reading Proficiency	12*
2	Prose Comprehension	15
3	Document	63
4	Quantitative	15

* Two additional NAEP items, N007501 and N007504, were also included in the Survey of Adult Literacy but were not included in scaling procedures in either assessment. This is because they appeared in NAEP booklets with fewer than 15 items per examinee. Subsequent exclusion from the literacy assessment has the benefit that results can be estimated directly on the NAEP scale without complicated linking procedures.

The rationale behind these scales is given in chapter III. The items comprising each scale are designated, by item position number, in Tables 1 through 4 in this Appendix. It is important to note that the items from Scale 1 were taken verbatim from the 1983-84 NAEP assessment of reading, and comprise a subset of items from the NAEP Reading Proficiency Scale.

Table 1

Item Identification and Parameters

NAEP Reading Proficiency

Item No.	NAEP ID	a	s.e.(a)	b	s.e.(b)	c	s.e.(c)
6	CORE #6	1.57066	0.10038	-0.64538	0.07260	0.26709	0.03160
7	CORE #7	1.53025	0.08338	-0.35908	0.05122	0.14507	0.02252
8	N017001	1.51834	0.15713	0.48407	0.17457	0.21320	0.04241
9	N017002	1.93512	0.13762	1.10006	0.19253	0.19574	0.02171
10	N017003	1.83349	0.12901	1.76996	0.24850	0.17677	0.01566
11	N015502	1.27279	0.12588	0.18925	0.14019	0.20864	0.05669
12	N015503	0.91211	0.11941	0.75605	0.21582	0.24651	0.05565
13	N015504	1.18882	0.12068	0.10997	0.13819	0.22004	0.06172
14	N015505	0.68340	0.08254	-0.17492	0.14577	0.24726	0.08705
15	N005503	0.71843	0.07420	0.35569	0.12684	0.21105	0.05387
16	N005504	1.31644	0.11181	0.77755	0.14729	0.21947	0.02374
17	N005505	1.12595	0.09159	-0.91282	0.12097	0.24680	0.07913

Table 2

Item Identification and Parameters

Prose Comprehension

Item No.	NAEP ID	a	s.e.(a)	b	s.e.(b)	c	s.e.(c)
30	AB21101	1.04896	0.09977	-1.58325	0.28088	0.00000	0.00000
31	AB21201	1.14730	0.07220	-0.48295	0.11693	0.00000	0.00000
38	AB30501	0.50959	0.03629	1.33645	0.05109	0.00000	0.00000
39	AB30601	0.98676	0.05296	0.93657	0.04194	0.00000	0.00000
45	AB31201	0.73958	0.04633	1.62435	0.06664	0.00000	0.00000
57	AB40901	0.81888	0.04654	0.80226	0.03975	0.00000	0.00000
58	AB41001	0.66123	0.04816	-0.67977	0.12333	0.00000	0.00000
59	AB50101	0.51617	0.04021	2.40005	0.12952	0.00000	0.00000
60	AB50201	0.98480	0.10932	1.58009	0.16327	0.22986	0.02612
76	AB60201	1.06667	0.06274	-0.24411	0.09118	0.00000	0.00000
86	AB60601	0.79297	0.04738	0.22369	0.05700	0.00000	0.00000
93	AB70101	0.57028	0.06655	-2.46043	0.39675	0.00000	0.00000
96	AB70401	0.65489	0.04687	-0.63936	0.11812	0.00000	0.00000
105	AB71001	1.06541	0.09729	0.02316	0.11479	0.25405	0.04826
106	AB71101	0.68967	0.04292	1.22862	0.04659	0.00000	0.00000

Table 3

Item Identification and Parameters

Document Utilization

Item No.	NAEP ID	a	s.e.(a)	b	s.e.(b)	c	s.e.(c)
1	CORE #1	0.37832	0.04715	-5.35693	0.77862	0.00000	0.00000
2	CORE #2	0.48996	0.03464	-2.93015	0.27512	0.00000	0.00000
3	CORE #3	1.00329	0.09233	-2.94902	0.44393	0.00000	0.00000
4	CORE #4	0.37165	0.02704	-2.91529	0.27746	0.00000	0.00000
5	CORE #5	0.53549	0.03329	-2.39254	0.21067	0.00000	0.00000
20	N005701	0.88737	0.07311	-0.52349	0.14809	0.19613	0.04776
21	N005702	0.84727	0.06609	-0.06176	0.10796	0.17793	0.03967
22	N005703	1.04421	0.07993	0.75501	0.08564	0.15244	0.02776
23	N006001	0.37391	0.04210	-0.51814	0.18494	0.25736	0.06038
24	N006002	0.40107	0.04110	-0.74641	0.18614	0.22372	0.05420
25	N006003	0.88178	0.06767	-0.36501	0.12704	0.17464	0.04015
26	N007101	0.46881	0.05014	0.47149	0.11502	0.22888	0.05087
27	N007102	1.05009	0.08212	0.91202	0.09028	0.13839	0.02610
28	N007103	1.03594	0.10052	1.61776	0.16212	0.18248	0.02179
29	N007104	0.64373	0.05964	0.67927	0.09844	0.19551	0.04010
32	AB21301	0.50030	0.04406	-1.71250	0.23517	0.00000	0.00000
33	AB21501	0.77486	0.05097	-0.44604	0.10599	0.00000	0.00000
34	AB30101	0.76563	0.05531	-1.30026	0.18175	0.00000	0.00000
35	AB30201	0.46865	0.04464	-2.23105	0.30269	0.00000	0.00000
36	AB30301	0.66276	0.04930	-1.35496	0.18289	0.00000	0.00000
37	AB30401	0.48995	0.03470	-0.24004	0.08938	0.00000	0.00000
40	AB30701	0.76334	0.05252	-1.02378	0.15277	0.00000	0.00000
41	AB30801	0.57590	0.03721	0.99646	0.04407	0.00000	0.00000
42	AB30901	0.22362	0.02699	-0.48069	0.16467	0.00000	0.00000
43	AB31001	0.77589	0.04519	0.23525	0.06090	0.00000	0.00000
44	AB31101	0.62536	0.04233	-0.51972	0.10800	0.00000	0.00000
46	AB31301	0.64754	0.05201	-1.41268	0.19949	0.00000	0.00000
47	AB40101	0.64073	0.04599	-1.22931	0.16636	0.00000	0.00000
50	AB40401	1.00176	0.05167	0.70525	0.04955	0.00000	0.00000
62	AB50401	0.73137	0.05169	-1.26607	0.17306	0.00000	0.00000
63	AB50402	0.61352	0.03709	0.28026	0.05609	0.00000	0.00000
66	AB50501	0.36492	0.03099	-0.81364	0.14779	0.00000	0.00000
67	AB50601	0.86510	0.05296	-0.54504	0.11238	0.00000	0.00000
68	AB50701	0.96890	0.06103	-0.72431	0.13524	0.00000	0.00000
69	AB50801	0.47907	0.05835	-3.21562	0.50657	0.00000	0.00000
70	AB50901	0.59245	0.04625	-1.43356	0.19293	0.00000	0.00000
71	AB51001	0.25056	0.02794	0.22686	0.07949	0.00000	0.00000
72	AB60101	0.89096	0.06104	-0.96332	0.15700	0.00000	0.00000
73	AB60102	1.17538	0.07860	-0.81384	0.16904	0.00000	0.00000
74	AB60103	0.76833	0.05440	-1.08295	0.16097	0.00000	0.00000
75	AB60104	1.03717	0.06992	-0.88281	0.16183	0.00000	0.00000
77	AB60301	0.90724	0.10095	-2.29715	0.41841	0.00000	0.00000
78	AB60302	0.62312	0.07842	-2.98504	0.50767	0.00000	0.00000
79	AB60303	0.79968	0.05839	-1.19293	0.17679	0.00000	0.00000

Table 3

Item Identification and Parameters

Document Utilization

Item No.	NAEP ID	a	s.e.(a)	b	s.e.(b)	c	s.e.(c)
80	AB60304	0.72951	0.04209	0.38665	0.05335	0.00000	0.00000
81	AB60305	0.52781	0.03911	-0.84767	0.13673	0.00000	0.00000
82	AB60306	0.72544	0.05964	-1.60926	0.22709	0.00000	0.00000
83	AB60401	0.43542	0.05058	-2.91831	0.44544	0.00000	0.00000
84	AB60501	1.66023	0.09718	1.87958	0.12848	0.00000	0.00000
85	AB60502	0.93027	0.05025	0.92303	0.04839	0.00000	0.00000
87	AB60701	0.96953	0.09336	-1.76944	0.31448	0.00000	0.00000
88	AB60801	0.80328	0.08508	-2.13280	0.35743	0.00000	0.00000
89	AB60802	0.81125	0.10729	-2.65798	0.51911	0.00000	0.00000
90	AB60803	1.12312	0.18494	-2.66522	0.75996	0.00000	0.00000
92	AB61001	0.65384	0.06028	-1.75810	0.25955	0.00000	0.00000
94	AB70104	0.50305	0.05884	-2.98721	0.46155	0.00000	0.00000
95	AB70301	0.64374	0.04172	-0.47117	0.10192	0.00000	0.00000
99	AB70701	0.68552	0.04299	-0.33066	0.09235	0.00000	0.00000
100	AB70801	0.86603	0.06688	-1.40570	0.21237	0.00000	0.00000
101	AB70901	1.00936	0.08640	-1.62648	0.27778	0.00000	0.00000
102	AB70902	1.02834	0.06039	-0.23973	0.09751	0.00000	0.00000
103	AB70903	1.17252	0.08512	-1.04992	0.20574	0.00000	0.00000
107	AB71201	0.58741	0.07049	-2.83387	0.46219	0.00000	0.00000

Table 4

Item Identification and Parameters

Quantitative Literacy

Item No.	NAEP ID	a	s.e.(a)	b	s.e.(b)	c	s.e.(c)
48	AB40201	0.68409	0.04115	1.31162	0.04919	0.00000	0.00000
49	AB40301	0.70166	0.10278	0.88285	0.16147	0.48247	0.04526
51	AB40501	0.72767	0.04166	0.66906	0.04153	0.00000	0.00000
52	AB40601	0.81680	0.04702	-0.06966	0.07347	0.00000	0.00000
53	AB40701	1.48795	0.08258	0.05378	0.08867	0.00000	0.00000
54	AB40702	1.98037	0.12251	0.20081	0.10037	0.00000	0.00000
55	AB40703	1.41483	0.07664	0.20205	0.07436	0.00000	0.00000
56	AB40704	1.45825	0.07854	0.28092	0.07049	0.00000	0.00000
61	AB50301	0.42855	0.03804	2.86615	0.18447	0.00000	0.00000
64	AB50403	0.70917	0.04192	1.25791	0.04721	0.00000	0.00000
65	AB50404	0.97178	0.05853	-0.47800	0.10779	0.00000	0.00000
91	AB60901	0.48566	0.03549	0.31154	0.05591	0.00000	0.00000
97	AB70501	0.88891	0.04844	0.80708	0.04256	0.00000	0.00000
98	AB70601	0.92962	0.05096	1.23495	0.04971	0.00000	0.00000
104	AB70904	0.76190	0.06215	-1.42666	0.20865	0.00000	0.00000

Item Parameter Estimation ("Item Calibration")

The parameters for the subset of items from the NAEP reading scale were taken from analysis of the NAEP reading assessment. They were estimated from the reading assessment data by the procedures described in the 1983-84 NAEP Technical Report (NAEP, 1986). Their metric had been set so as to set at 0 and 1 the estimated mean and standard deviation of the population defined by the union of the three grade/age samples in the 1983-84 reading assessment.

Similar item calibration procedures, now to be described in detail, were carried out for each of the three unique literacy assessment scales. Using Mislevy's and Bock's (1982) BILOG computer program, the three-parameter model was fit to each item (but with lower asymptote parameters fixed at zero for free-response items). The entire sample of 3618 respondents was used, although the numbers of responses to each item not appearing in the core ranged from 1400 to 1600 since not every respondent was presented every item under the assessment sampling design. Case weights were not employed in item calibration.

An unfortunate characteristic of the three-parameter model is its tendency to problems with multicollinearity, especially with very hard or very easy items. That is, widely varying (a,b,c) combinations produce similar response curves through the region of θ where the calibration sample of respondents lie. Without constraints, unstable and unreasonable (a,b,c) triples can result for such items. BILOG guards against these problems by supplying Bayesian priors for each type of item parameter, with fixed dispersions and with locations estimated from the data. Default priors are normal for b's, with a standard deviation of 2; log-normal for a's, with a standard deviation of 1 for log a; and beta for c's, with the weight of 20 observed responses from low-ability respondents.

These default specifications proved unsatisfactory with the multiple-choice items in the literacy assessment data, since many of these items proved to be extremely easy for the young adult respondents. In particular, estimated c values tended to be higher than expected (when compared with the reciprocals of the numbers of response alternatives) and estimated a's were lower than expected (when compared with a values from free-response items). The prior dispersions were modified in the following manner to force the program to produce "more reasonable" estimates:

1) The prior standard deviation of log a was changed from 1.0 to 0.5, and

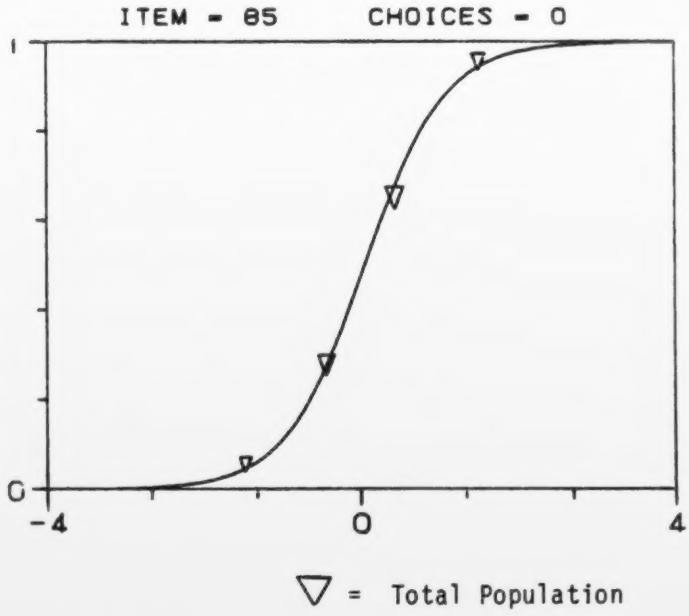
2) the precision of the beta prior on asymptotes was increased from the weight of 20 observations to 50 observations.

These changes resulted in item parameter estimates that were reasonable in appearance and fit the data well. These item parameter estimates and their associated standard errors of estimation are also shown in Tables 1 through 4. (The metric in which they are shown will be described below.)

Item fit was evaluated by inspecting residuals from fitted item response curves. A typical plot is shown as Figure 1. The smooth line is the fitted three-parameter logistic item response curve; the boxes are (approximate) expected proportions of correct response at various points along the proficiency scale, without assuming the three-parameter logistic functional form. The size of the boxes is proportional to the information available in the calibration data in that region of the scale. Plots of this kind for all items can be obtained from ETS upon request.

Figure 1

Example of a Fitted Three-Parameter Logistic Item Response Curve



Residual plots were also produced to examine the comparative operating characteristics of each item within gender and ethnicity subpopulations. Figures 2 and 3 show typical plots. As in Figure 1, the smooth line is the fitted curve, and boxes represent proportions correct without the assumption of the three-parameter logistic curve. In Figure 2, however, separate boxes appear for different subpopulations: triangles represent males in Figure 2, and hexagons represent females. In Figure 3, hexagons represent Blacks, X's represent Hispanics, and triangles represent Whites and others. Systematic and substantial departures from the fitted lines would suggest that an item may not be operating similarly in the subpopulations, despite the extensive precautions against such an eventuality that were taken during item development and pretesting. Items exhibiting serious departures of this type, had they appeared, would have been eliminated from further analysis. These plots are also available upon request.

Figure 2

Gender Differences for Six Items from the Document Literacy Scale

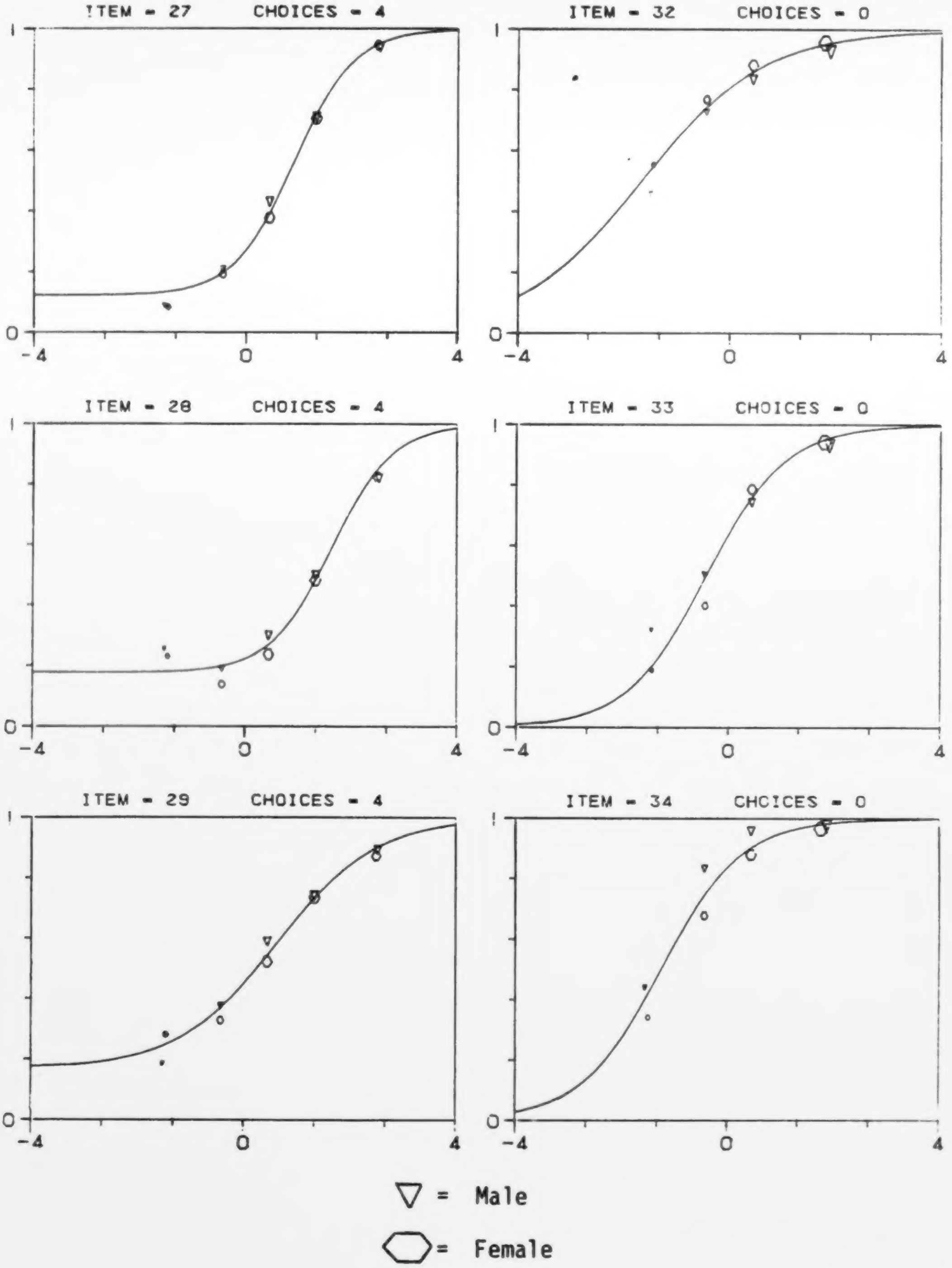
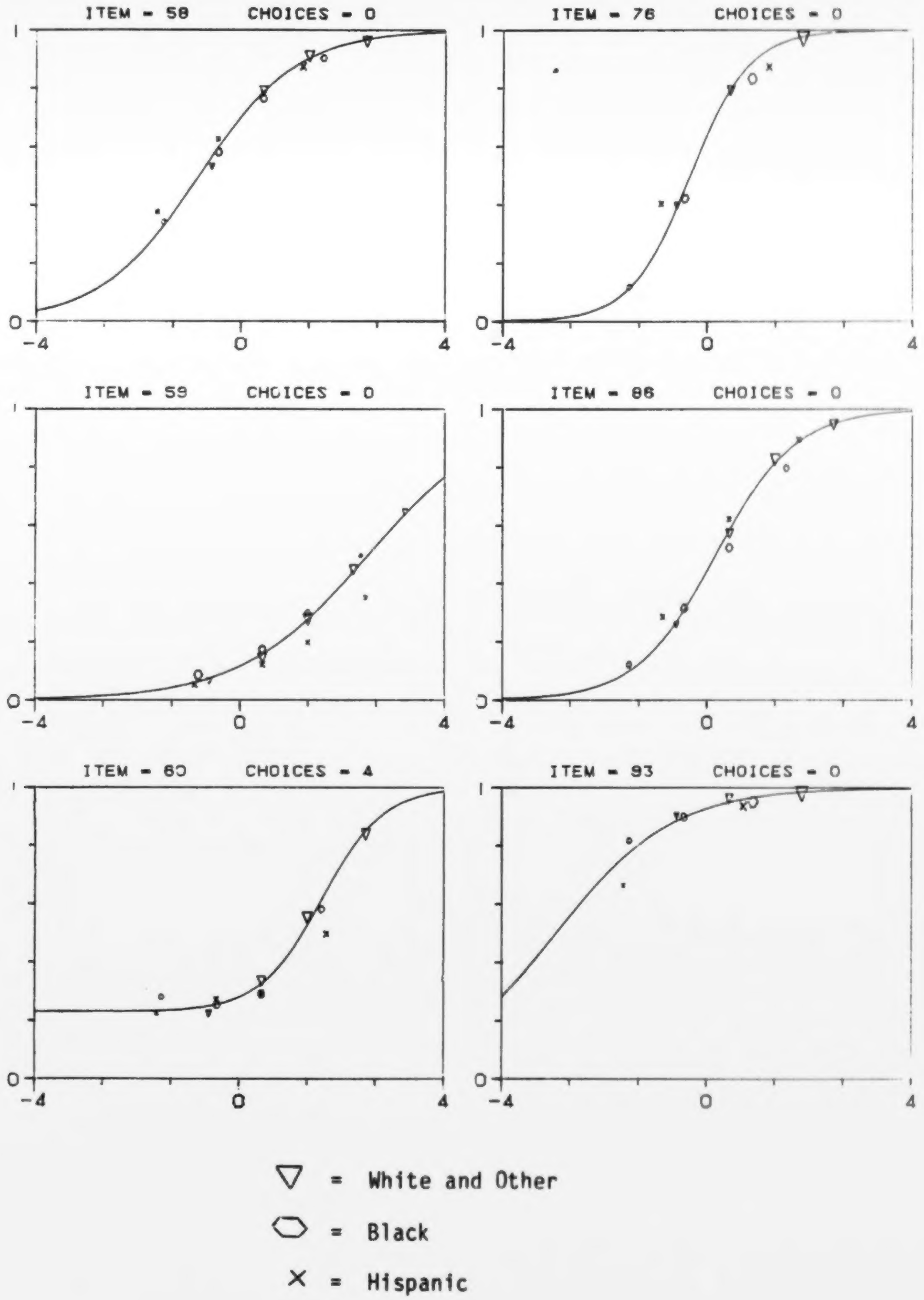


Figure 3

Race/Ethnicity Differences for Six Items from the Prose Comprehension Scale



Proficiency Estimation

In most applications of IRT, precise information is desired about each respondent tested, for the purposes of individual diagnosis, selection, or placement. A sufficient number of items are thus administered to each respondent to ensure that their proficiency can be estimated to a fine degree of accuracy, and testing times of several hours are not unusual. More efficient estimates of the distribution of proficiencies in a group of persons, however, can be obtained from sampling designs like that of the literacy assessment which solicit relatively few responses from each sampled respondent.

The advantage of more efficient estimation of population characteristics is balanced by the inability to make precise statements about individuals. Point estimates of θ that were in some sense optimal for each sampled respondent would lead to seriously biased estimates of population characteristics. One can, however, express what is known about the vector $\underline{\theta}_i = (\theta_{i1}, \theta_{i2}, \theta_{i3}, \theta_{i4})$ of respondent i's proficiency values, once his or her vectors of item responses $(\underline{x}_i)$ and background and attitude responses $(\underline{y}_i)$ have been observed, in terms of a plausible distribution for his or her $\underline{\theta} : p(\underline{\theta}|\underline{x}_i,\underline{y}_i)$. The value of any function T of reading proficiency and other background variables could then be estimated from the NAEP data by evaluating the integral

$$E[T(\underline{\theta},\underline{Y})|\underline{X},\underline{Y}] = \int T(\underline{\theta},\underline{Y})p(\underline{\theta}|\underline{X},\underline{Y})d\underline{\theta}, \qquad (*)$$

where $\underline{\theta}$, $\underline{X}$, and $\underline{Y}$ represent vectors of proficiency, item responses, and background responses respectively over the entire sample. The validity of Equation (*) extends to functions T that take case weights into account, involve more than one literacy scale, or reflect relationships between literacy scales and background variables.

Evaluation of Equation (*) is generally difficult. The approximations used for the literacy assessment, as described below, are derived from Rubin's (1977, 1978) approach to missing data in sample surveys. Details of the extension to IRT are given in Mislevy (1985a).

Note first that by standard rules of probability,

$$p(\underline{\theta}_i|\underline{x}_i,\underline{y}_i) \propto p(\underline{x}_i|\underline{\theta}_i,\underline{y}_i)\cdot p(\underline{\theta}_i|\underline{y}_i). \qquad (**)$$

The first factor in (**) is given by the item response model; denoting the responses to items from scale k taken by respondent i as $x_{ik1}, \ldots, x_{ikj}, \ldots$ and subscripting item parameters in a similar manner,

$$p(\underline{x}_i|\underline{\theta}_i,\underline{y}_i) = \prod_k \prod_j \text{Prob}\,(x_{ijk}|\theta_{ik}, a_{kj}, b_{kj}, c_{kj}).$$

The second factor gives the conditional distribution of $\underline{\theta}$ given background responses. This distribution was assumed multivariate normal in the literacy assessment:

$$p(\underline{\theta}|\underline{y}) \sim MVN(\underline{t}_i'\underline{B},\underline{\Sigma}),$$

where

$\underline{t}_i$ is a vector of design coefficients determined by the status of respondent i on selected background responses,

$\underline{B}$ is a matrix of regression coefficients, and

$\underline{\Sigma}$ is a common disperion matrix for residuals.

The background variables embodied in $\underline{t}_i$ included gender, ethnicity, Spanish language interview, region of the country, respondent's education, parental education, occupation, and selected reading practices. A main effects model was assumed. Details of the coding scheme are shown in Table 5.

Note that in order to be strictly correct for all functions T of $\underline{\theta}$ and $\underline{y}$, it is necessary that $p(\underline{\theta}|\underline{y})$ be correctly specified for all background variables in the survey. Resource limitations preclude the use of all background variables in this manner in the literacy assessment of young adults however. Those variables chosen, as specified in Table 5, were chosen to reflect high policy relevance. The computation of marginal means and percentile points of $\underline{\theta}$ for these variables is nearly optimal. Estimates of functions T involving background variables not conditioned upon in this manner are subject to estimation error due to misspecification. Approximate expressions for such errors are currently being developed, and will be reported upon in an ETS Research Bulletin.

Table 5

Coding of Background Variables

	Effect	Values	Interpretation
A.	Grand mean	1.0	constant over all respondents
B.	Gender	+.5	male
		0	missing
		-.5	female
C.	Ethnicity		
	C1:	+.5	black
		0	missing
		-.5	neither black nor hispanic
	C2:	+.5	hispanic
		0	missing
		-.5	neither black nor hispanic
D.	Spanish language questionnaire administered?		
		-.5	Spanish language survey only
		+.5	otherwise
E.	Region		
	E1:	+.5	NE
		0	missing
		-.5	CE, SE, or W
	E2:	+.5	CE
		0	missing
		-.5	NE, SE, or W
	E3:	+.5	SE
		0	missing
		-.5	NE, CE, or W
F.	Respondent's education		
	F1:	-.5	0-8 years
		0	missing
		+.5	otherwise
	F2:	-.5	9-12 years
		0	missing
		+.5	otherwise

Chapter 5 (cont.)

Effect	Values	Interpretation
F3:	-.5	high school graduation, post high school, but less than 2 years of college
	0	missing
	+.5	otherwise
G. Parents' education (higher of mother's or father's)		
G1:	-.5	<HS
	+.5	=HS, >HS, or missing
G2:	-.5	=HS
	+.5	<HS, >HS, or missing
G3:	-.5	>HS
	+.5	<HS, =HS, or missing
H. Job status		
H1:	-.5	employed during past 12 months, full time all year
	0	missing
	+.5	otherwise
H2:	-.5	employed during past 12 months, part time all year
	0	missing
	+.5	otherwise
H3:	-.5	employed during past 12 months, full time but not all year
	0	missing
	+.5	otherwise
H4:	-.5	employed during past 12 months, past time but not all year
	0	missing
	+.5	otherwise
H5:	-.5	not employed during past 12 months, laid off or looking for work
	0	missing
	+.5	otherwise
H6:	-.5	not employed during past 12 months, in school
	0	missing
	+.5	otherwise

Chapter 5 (cont.)

Effect	Values	Interpretation
I. Reading practices		
I1:	+.5	at least once a week, reads English language newspaper for national news, state news, editorial or financial sections
	-.5	otherwise
I2:	+.5	at least once a week, reads English language newspaper sports section
	-.5	otherwise
I3:	+.5	at least once a week, reads English language newspaper section for society/women; movies, TV, or book reviews; or horoscope
	-.5	otherwise
I4:	+.5	at least once a week, reads English language newspaper for movies or TV listings, advertisements, or classified ads
	-.5	otherwise
J. Failed core?	-.5	less than 3 core items correct
	+.5	otherwise.

Estimation of $\underline{B}$ and $\underline{\Sigma}$ were accomplished with the EM procedure described in Mislevy (1985b), as implemented in the computer program M-GROUP (Sheehan, 1986). Case weights were employed in this step. Monte Carlo integration was required; estimation cycles ceased when (i) parameter estimates in $\underline{B}$ and $\underline{\Sigma}$ were no longer changing in consistent directions, and (ii) the largest change from one cycle to the next was in the second decimal place. Resulting estimates are given in Tables 6 and 7.

Table 6

Estimated Regression Coefficients

Field	Effect	NAEP RP	Prose Comp.	Document Util.	Quantitative Literacy
A1	Intercept	-1.935194	-2.062670	-1.997240	-2.062707
B1	Gender	-0.045033	-0.065875	-0.062784	-0.069039
C1	Ethnicity	-0.696856	-0.779730	-0.692607	-0.783344
C2		0.027050	0.077669	-0.053297	0.032114
D1	Spanish	1.655435	1.963220	1.625843	1.815170
E1	Region	-0.080988	-0.056575	-0.054643	-0.066060
E2		-0.018398	0.018578	0.049612	0.095141
E3		-0.156703	-0.175059	-0.108489	-0.132566
F1	Resp. Educ.	1.415355	1.446965	1.417162	1.457487
F2		1.052978	0.993496	1.036133	1.016078
F3		0.586134	0.577713	0.535925	0.561305
G1	Par. Educ.	-0.245820	-0.262283	-0.170825	-0.157048
G2		-0.430073	-0.472960	-0.299762	-0.269236
G3		-0.573609	-0.654605	-0.439941	-0.469417
H1	Occupation	-0.061059	-0.055135	-0.073891	-0.037927
H2		-0.156851	-0.116030	-0.203905	-0.161272
H3		-0.146953	-0.078677	-0.164809	-0.158952
H4		-0.053913	-0.089007	-0.100734	-0.055711
H5		0.097836	0.107072	0.251881	0.121302
H6		-0.060436	-0.027301	-0.030191	-0.080497
I1	Read. Prac.	0.427530	0.400327	0.461494	0.430343
I2		-0.054650	-0.035517	-0.056737	-0.057109
I3		0.034666	-0.025976	-0.011693	0.023939
I4		0.285197	0.265220	0.311961	0.318136
J1	Pass Core	1.641183	1.716773	1.662671	1.674524

Table 7

Estimated Residual Covariance Matrix

	NAEP RP	Prose Comp.	Document Util.	Quant. Lit.
NAEP RP	0.823002			
Prose Comp.	0.191693	0.713626		
Document Util.	0.166983	0.145040	0.495258	
Quant. Lit.	0.189489	0.151147	0.152152	0.668808

Taking estimates of item parameters, $\underline{B}$, and $\underline{\Sigma}$ as known, an approximation of the plausibility distribution of each $\underline{\theta}_i$ could then be obtained via Equation (**). Five random four-tuples, or vectors of plausible values of $\underline{\theta}_i$, were drawn for each respondent from his or her plausibility distribution. This step was also accomplished with the M-GROUP program. The plausible values can then be employed to evaluate Equation (*) for an arbitrary function T as follows:

1) Using the first vector of plausible values for each respondent, evaluate T as if the plausible values were the true values of $\underline{\theta}$. Denote the result $\hat{T}_1$.

2) In the same manner as in 1) above, evaluate the sampling variance of $\hat{T}_1$, or $\mathrm{Var}(\hat{T}_1)$ with respect to respondents' first vectors of plausible values. Denote the result $\widehat{\mathrm{Var}}_1$.

3) Carry out steps 1) and 2) for the second through fifth vectors of plausible values, thus obtaining $\hat{T}_u$ and $\widehat{\mathrm{Var}}_u$ for $u=2,\ldots,5$.

4) The best estimate of T obtainable from the plausible values is the average of the five values obtained from the different sets of plausible values:

$$\hat{T}. = \sum_u \hat{T}_u/5.$$

5) An estimate of the variance of $\hat{T}.$ is the sum of two components, one being an estimate of $\widehat{\mathrm{Var}}(\hat{T}_u)$ obtained in the manner of step (4) and the other being the variance among the $\hat{T}_u$'s:

$$\widehat{\mathrm{Var}}(\hat{T}.) = \sum_u \widehat{\mathrm{Var}}_u/5 + \sum_u (\hat{T}_u - \hat{T}.)^2/5.$$

The first component in $\widehat{\mathrm{Var}}(\hat{T}.)$ reflects uncertainty due to sampling respondents from the population; the second component reflects uncertainty due to the fact that sampled respondents' $\underline{\theta}$'s are not known precisely, but only indirectly through $\underline{x}$ and $\underline{y}$.

In the literacy assessment, a single SEM, as mentioned in Steps 2 and 3 above, must be computed by means of a computationally burdensome jackknife procedure, requiring 50 separate calculations of the statistic of interest. Full implementation of the steps, then, would require a total of 250 calculations. Computing time can be reduced by nearly 80 percent by computing only SEM_1 in Step 2, and substituting it for the average of five SEM's that appears in Step 5. This expedient adds no uncertainty whatsoever to $\hat{T}.$ itself, although it does increase the variability of the estimate of that uncertainty.

Specifying the Metric of the Scales

As noted above, item parameters of the NAEP reading scale items were obtained in a metric that standardizes the combined 1983-84 NAEP reading assessment sample. In the manner described in preceding paragraphs, all statistics T concerning the distribution of the Survey population on the proficiency tapped by this scale were estimated in this metric.

The linear indeterminacies in the remaining three Survey scales are resolvable by an arbitrary choice of an origin and unit-size. Transformations were selected that make the three unique Survey scales resemble the NAEP reading scale. Using the multiple-calculations procedure for plausible values described above, appropriately weighted means and standard deviations were computed in all four Survey scales. The results were in the NAEP standardized metric for the NAEP scale and in an arbitrary metric for the three unique Survey scales. For each unique Survey scale, the linear transformation $M\theta + X$ was calculated that matched the transformed mean and standard deviation to that of the population's mean and standard deviation in the NAEP scale. Corresponding linear transformations were applied to item a and b parameters.

To facilitate reporting of reading results by eliminating fractional quantities and negative numbers, NAEP additionally transformed θ values to expected number-correct scores on a hypothetical 500-item test (see the 1983-84 NAEP Technical Report for details). This "NAEP Reading Proficiency Scale" was defined in a manner that ensured its relationship with the θ scale was virtually linear from $\theta = -4$ to $\theta = +4$, an interval spanning the range of proficiencies of all NAEP grade/age samples. The transformation is approximated in this range by

$$RP = 50\,\theta + 250.5.$$

The same transformation was also employed in reports of literacy assessment results in order to eliminate, as in NAEP, the need for fractional and negative values.

The item response model allows the calculation of the probability of a correct response to a given item from a respondent at any point along the proficiency scale. Tables 8 through 11 give such probabilities for each item at points ranging from 150 to 450 in the RP scale at 50-point intervals. By this device, it is possible to convey the capabilities of a person at a given proficiency level in terms of the performance one would expect to see on specific tasks. Also provided for each item are "RP80" values, or the points along the RP proficiency scale at which 80 percent of the persons at that level would answer correctly.

Table 8

Item Probabilities and RP80's

NAEP Reading Proficiency

Item No.	NAEP ID	150	200	250	300	350	400	450	RP80
17	N005505	33	59	89	98	100	100	100	231
6	CORE #6	29	47	89	99	100	100	100	237
7	CORE #7	16	28	75	98	100	100	100	255
13	N015504	23	29	56	89	98	100	100	282
11	N015502	22	26	52	88	98	100	100	285
14	N015505	33	45	66	85	94	98	99	286
8	N017001	21	23	39	83	98	100	100	296
15	N005503	25	34	52	75	91	97	99	312
16	N005504	22	23	33	70	95	99	100	313
12	N015503	26	29	42	69	90	98	100	321
9	N017002	20	20	22	53	96	100	100	322
10	N017003	18	18	18	24	72	98	100	357

Table 9

Item Probabilities and RP80's

Prose Comprehension

Item No.	NAEP ID	150	200	250	300	350	400	450	RP80
93	AB70101	61	80	91	97	99	99	100	199
30	AB21101	32	74	94	99	100	100	100	210
31	AB21201	5	26	72	95	99	100	100	262
76	AB60201	4	20	60	90	98	100	100	277
58	AB41001	18	41	68	87	95	98	99	278
105	AB71001	27	35	62	89	98	100	100	279
96	AB70401	18	40	67	86	95	98	99	281
86	AB60601	5	16	42	74	92	98	99	313
39	AB30601	1	4	17	52	85	97	99	339
57	AB40901	2	7	24	56	84	95	99	340
60	AB50201	23	24	28	44	74	93	99	361
106	AB71101	2	7	19	43	71	89	96	371
45	AB31201	1	4	11	31	61	85	95	387
38	AB30501	5	12	24	43	64	81	91	397
59	AB50101	2	5	11	22	41	63	80	449

Table 10

Item Probabilities and RP80's

Document Utilization

Item No.	NAEP ID	150	200	250	300	350	400	450	RP80
1	CORE #1	87	93	96	98	99	100	100	110
3	CORE #3	74	95	99	100	100	100	100	160
90	AB60803	65	93	99	100	100	100	100	169
78	AB60302	66	86	95	98	99	100	100	181
89	AB60802	61	87	97	99	100	100	100	182
69	AB50801	67	83	92	97	99	99	100	189
107	AB71201	62	83	93	98	99	100	100	192
77	AB60301	48	83	96	99	100	100	100	194
94	AB70104	63	81	92	96	99	99	100	196
2	CORE #2	62	80	91	96	98	99	100	201
88	AB60801	43	76	93	98	100	100	100	207
83	AB60401	60	77	88	94	97	99	99	211
87	AB60701	28	69	93	99	100	100	100	216
5	CORE #5	51	73	88	95	98	99	100	219
101	AB70901	22	65	92	99	100	100	100	221
4	CORE #4	59	74	85	92	96	98	99	226
92	AB61001	34	63	85	95	98	99	100	236
35	AB30201	48	68	83	92	96	98	99	237
82	AB60306	29	60	85	95	99	100	100	237
100	AB70801	20	55	85	97	99	100	100	238
103	AB70903	7	39	84	98	100	100	100	243
34	AB30101	20	51	81	94	99	100	100	249
79	AB60303	17	47	79	94	99	100	100	252
46	AB31301	26	54	79	92	98	99	100	253
62	AB50401	21	50	79	93	98	100	100	253
36	AB30301	25	52	78	92	98	99	100	254
73	AB60102	4	28	77	97	100	100	100	254
75	AB60104	7	33	77	96	99	100	100	255
32	AB21301	37	59	78	90	96	98	99	256
70	AB50901	28	54	77	91	97	99	100	257
72	AB60101	11	38	76	94	99	100	100	257
74	AB60103	16	44	76	93	98	100	100	259
47	AB40101	23	49	75	91	97	99	100	262
40	AB30701	15	42	74	92	98	99	100	262
68	AB50701	6	29	70	93	99	100	100	265
20	N005701	24	39	69	91	98	100	100	269
25	N006003	21	34	64	89	97	99	100	278
67	AB50601	7	25	62	89	97	99	100	278
102	AB70902	2	14	51	87	98	100	100	286
33	AB21501	8	25	58	85	96	99	100	288
81	AB60305	21	40	64	82	92	97	99	292
21	N005702	21	30	55	83	96	99	100	294
44	AB31101	13	31	58	81	93	98	99	296
95	AB70301	11	29	57	81	93	98	99	297

Table 10

Item Probabilities and RP80's

Document Utilization

Item No.	NAEP ID	150	200	250	300	350	400	450	RP80
24	N006002	42	54	68	81	89	94	97	297
99	AB70701	9	25	54	80	93	98	99	300
23	N006001	43	54	67	78	87	93	96	309
43	AB31001	3	12	36	70	90	97	99	320
22	N005703	16	17	28	62	91	98	100	326
66	AB50501	28	43	59	74	85	91	95	326
37	AB30401	15	30	51	71	86	94	97	326
80	AB60304	3	11	32	64	87	96	99	330
50	AB40401	1	3	17	57	89	98	100	331
27	N007102	14	16	24	55	88	98	100	334
63	AB50402	6	16	38	65	85	94	98	335
29	N007104	22	28	42	64	84	94	98	339
26	N007101	30	38	51	67	82	91	96	343
85	AB60502	1	3	14	48	83	96	99	344
28	N007103	18	19	21	35	70	93	99	365
84	AB60501	0	0	0	5	54	96	100	371
41	AB30801	4	10	24	47	71	88	95	372
42	AB30901	33	42	53	62	71	79	85	408
71	AB51001	25	35	45	57	67	77	84	422

Table 11

Item Probabilities and RP80's

Quantitative Literacy

Item No.	NAEP ID	150	200	250	300	350	400	450	RP80
104	AB70904	32	63	86	96	99	100	100	233
65	AB50404	7	29	68	92	98	100	100	269
53	AB40701	1	6	46	91	99	100	100	281
54	AB40702	0	2	33	93	100	100	100	281
55	AB40703	0	5	38	87	99	100	100	289
56	AB40704	0	4	33	85	99	100	100	293
52	AB40601	6	21	52	81	95	99	100	297
49	AB40301	50	53	62	76	89	96	99	314
97	AB70501	1	6	23	57	86	96	99	337
51	AB40501	4	11	30	60	84	95	98	340
91	AB60901	13	25	43	64	80	90	95	350
98	AB70601	1	3	12	40	77	94	99	356
64	AB50403	2	6	18	42	71	89	96	371
48	AB40201	2	6	18	41	69	88	96	376
61	AB50301	3	6	11	20	35	52	69	489

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APPENDIX C

(DATA)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

TOTAL SAMPLE

	N	WEIGHTED N	TOTAL
ENGLISH SAMPLE			
-- TOTAL --	3474	20,720,464(5%)	100.0(0.0)
NAEP READING PROFICIENCY			305.0(2.0)
PROSE COMPREHENSION			305.0(2.0)
DOCUMENT			305.0(1.9)
QUANTITATIVE COMPUTATION			305.0(2.1)
SEX			
MALE	1544	10,054,793(6%)	100.0(0.0)
NAEP READING PROFICIENCY			304.6(2.3)
PROSE COMPREHENSION			305.6(2.6)
DOCUMENT			305.3(2.6)
QUANTITATIVE COMPUTATION			304.9(2.8)
FEMALE	1930	10,665,671(6%)	100.0(0.0)
NAEP READING PROFICIENCY			305.4(2.3)
PROSE COMPREHENSION			304.5(2.1)
DOCUMENT			304.8(1.9)
QUANTITATIVE COMPUTATION			305.1(2.3)
ETHNICITY/RACE			
WHITE	1997	16,018,109(6%)	100.0(0.0)
NAEP READING PROFICIENCY			313.8(2.0)
PROSE COMPREHENSION			314.4(1.9)
DOCUMENT			315.7(1.9)
QUANTITATIVE COMPUTATION			314.6(2.2)
BLACK	957	2,693,192(8%)	100.0(0.0)
NAEP READING PROFICIENCY			263.3(2.4)
PROSE COMPREHENSION			258.3(2.4)
DOCUMENT			255.7(2.8)
QUANTITATIVE COMPUTATION			259.1(2.3)
HISPANIC	391	1,264,984(12%)	100.0(0.0)
NAEP READING PROFICIENCY			286.6(4.7)
PROSE COMPREHENSION			285.5(4.5)
DOCUMENT			278.7(4.4)
QUANTITATIVE COMPUTATION			280.3(5.0)
OTHER	129	744,179(20%)	100.0(0.0)
NAEP READING PROFICIENCY			299.0(9.0)
PROSE COMPREHENSION			304.5(6.5)
DOCUMENT			298.2(5.1)
QUANTITATIVE COMPUTATION			306.4(6.7)

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES

  TOTAL SAMPLE

                                 N        WEIGHTED N        TOTAL

ENGLISH SAMPLE (CONTINUED)
REGION
  NORTHEAST                     679     4,448,158(10%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              310.8( 3.6)
    PROSE COMPREHENSION                                   311.1( 2.9)
    DOCUMENT                                              309.2( 2.5)
    QUANTITATIVE COMPUTATION                              309.1( 4.1)

  SOUTHEAST                     897     5,140,778(17%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              291.7( 3.1)
    PROSE COMPREHENSION                                   289.8( 5.9)
    DOCUMENT                                              291.4( 4.4)
    QUANTITATIVE COMPUTATION                              290.6( 3.6)

  CENTRAL                       800     5,364,920(12%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              307.4( 3.8)
    PROSE COMPREHENSION                                   309.3( 3.8)
    DOCUMENT                                              309.7( 3.7)
    QUANTITATIVE COMPUTATION                              311.7( 3.9)

  WEST                         1098     5,766,608(12%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              310.2( 4.6)
    PROSE COMPREHENSION                                   309.9( 4.4)
    DOCUMENT                                              309.5( 4.5)
    QUANTITATIVE COMPUTATION                              308.5( 4.2)


EDUCATION LEVEL
  LESS THAN HIGH SCHOOL          77       374,926(22%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              234.7( 8.3)
    PROSE COMPREHENSION                                   237.4(11.0)
    DOCUMENT                                              225.3(11.9)
    QUANTITATIVE COMPUTATION                              234.9(10.4)

  SOME HIGH SCHOOL              618     2,769,840( 6%)    100.0( 0.0)

    NAEP READING PROFICIENCY                              262.7( 3.5)
    PROSE COMPREHENSION                                   262.9( 4.0)
    DOCUMENT                                              256.3( 3.9)
    QUANTITATIVE COMPUTATION                              261.2( 3.5)
```

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  TOTAL SAMPLE

                                N        WEIGHTED N         TOTAL

ENGLISH SAMPLE (CONTINUED)
EDUCATION LEVEL (CONTINUED)
  GRADUATED HIGH SCHOOL       1718    9,999,954( 7%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             296.3( 1.7)
    PROSE COMPREHENSION                                  295.3( 2.0)
    DOCUMENT                                             295.5( 1.9)
    QUANTITATIVE COMPUTATION                             295.8( 2.2)

  COLLEGE DEGREE              1058    7,565,453( 9%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             335.6( 2.8)
    PROSE COMPREHENSION                                  336.8( 1.9)
    DOCUMENT                                             339.4( 1.9)
    QUANTITATIVE COMPUTATION                             336.8( 2.3)


PARENTAL EDUCATION
  0 - 8 YEARS                  357    1,424,884(11%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             274.8( 5.2)
    PROSE COMPREHENSION                                  268.1( 5.8)
    DOCUMENT                                             267.1( 5.8)
    QUANTITATIVE COMPUTATION                             267.5( 4.9)

  SOME H.S.                    489    2,400,960( 9%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             272.2( 3.0)
    PROSE COMPREHENSION                                  272.6( 3.7)
    DOCUMENT                                             273.5( 2.4)
    QUANTITATIVE COMPUTATION                             277.3( 3.8)

  GRADUATED H.S.              1537    9,736,634( 6%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             305.0( 1.7)
    PROSE COMPREHENSION                                  304.4( 2.2)
    DOCUMENT                                             304.1( 2.2)
    QUANTITATIVE COMPUTATION                             303.0( 1.7)

  COLLEGE DEGREE               978    6,737,472(10%)     100.0( 0.0)

    NAEP READING PROFICIENCY                             326.8( 3.5)
    PROSE COMPREHENSION                                  329.1( 2.5)
    DOCUMENT                                             329.3( 2.7)
    QUANTITATIVE COMPUTATION                             329.1( 3.2)
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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  TOTAL SAMPLE

                              N       WEIGHTED N        TOTAL

ENGLISH SAMPLE (CONTINUED)
EMPLOYMENT STATUS
  FULL-TIME ALL YEAR        1474    9,571,878( 6%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          302.9( 2.1)
    PROSE COMPREHENSION                               303.3( 2.5)
    DOCUMENT                                          302.5( 2.0)
    QUANTITATIVE COMPUTATION                          301.7( 2.4)

  PART-TIME ALL YEAR         479    2,816,437(12%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          321.1( 3.8)
    PROSE COMPREHENSION                               320.8( 3.6)
    DOCUMENT                                          325.3( 3.9)
    QUANTITATIVE COMPUTATION                          323.0( 4.1)

  FULL-TIME PART OF YEAR     619    3,703,890( 6%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          309.3( 3.7)
    PROSE COMPREHENSION                               307.5( 3.8)
    DOCUMENT                                          309.8( 3.3)
    QUANTITATIVE COMPUTATION                          309.8( 3.4)

EMPLOYMENT STATUS (CONTINUED)
  PART-TIME PART OF YEAR     275    1,761,586(11%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          312.2( 5.9)
    PROSE COMPREHENSION                               313.7( 6.1)
    DOCUMENT                                          311.4( 4.7)
    QUANTITATIVE COMPUTATION                          311.4( 4.8)

  UNEMPLOYED                 117      402,744(14%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          260.3( 7.3)
    PROSE COMPREHENSION                               255.6( 9.4)
    DOCUMENT                                          245.5( 6.5)
    QUANTITATIVE COMPUTATION                          258.3( 7.2)

  IN SCHOOL                  161      851,851(20%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          313.5( 7.8)
    PROSE COMPREHENSION                               313.6( 5.8)
    DOCUMENT                                          313.8( 6.3)
    QUANTITATIVE COMPUTATION                          320.5( 6.8)

  KEEPING HOUSE              301    1,432,789(10%)    100.0( 0.0)

    NAEP READING PROFICIENCY                          277.5( 4.5)
    PROSE COMPREHENSION                               279.5( 4.8)
    DOCUMENT                                          275.7( 4.8)
    QUANTITATIVE COMPUTATION                          277.5( 5.7)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

TOTAL SAMPLE

	N	WEIGHTED N	TOTAL
SPANISH SAMPLE	80	213,081(31%)	100.0(0.0)
NAEP READING PROFICIENCY			161.8(7.7)
PROSE COMPREHENSION			157.1(9.2)
DOCUMENT			137.3(5.1)
QUANTITATIVE COMPUTATION			152.9(8.7)
ENGLISH WHO FAILED CORE	64	224,799(19%)	100.0(0.0)
NAEP READING PROFICIENCY			168.8(14.4)
PROSE COMPREHENSION			163.3(11.0)
DOCUMENT			146.5(8.6)
QUANTITATIVE COMPUTATION			154.7(17.2)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

WHAT IS YOUR SEX ?

	N	WEIGHTED N	MALE	FEMALE	NON RESP
ENGLISH SAMPLE -- TOTAL --	3474	20,720,464(5%)	48.5(1.2)	51.5(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			304.6(2.3)	305.4(2.3)	*****(0.0)
PROSE COMPREHENSION			305.6(2.6)	304.5(2.1)	*****(0.0)
DOCUMENT			305.3(2.6)	304.8(1.9)	*****(0.0)
QUANTITATIVE COMPUTATION			304.9(2.8)	305.1(2.3)	*****(0.0)
SEX					
MALE	1544	10,054,793(6%)	100.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			304.6(2.3)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			305.6(2.6)	*****(0.0)	*****(0.0)
DOCUMENT			305.3(2.6)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			304.9(2.8)	*****(0.0)	*****(0.0)
FEMALE	1930	10,665,671(6%)	0.0(0.0)	100.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	305.4(2.3)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	304.5(2.1)	*****(0.0)
DOCUMENT			*****(0.0)	304.8(1.9)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	305.1(2.3)	*****(0.0)
ETHNICITY/RACE					
WHITE	1997	16,018,109(6%)	49.3(1.5)	50.7(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			312.0(2.5)	315.4(2.4)	*****(0.0)
PROSE COMPREHENSION			314.2(2.6)	314.6(2.0)	*****(0.0)
DOCUMENT			315.7(2.7)	315.7(1.8)	*****(0.0)
QUANTITATIVE COMPUTATION			313.6(3.2)	315.6(2.4)	*****(0.0)
BLACK	957	2,693,192(8%)	41.7(3.1)	58.3(3.1)	0.0(0.0)
NAEP READING PROFICIENCY			263.4(5.0)	263.3(2.8)	*****(0.0)
PROSE COMPREHENSION			253.9(4.9)	261.5(3.2)	*****(0.0)
DOCUMENT			251.6(3.9)	258.7(3.1)	*****(0.0)
QUANTITATIVE COMPUTATION			255.7(3.8)	261.6(3.6)	*****(0.0)
HISPANIC	391	1,264,984(12%)	45.3(3.0)	54.7(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			287.9(4.1)	285.6(7.0)	*****(0.0)
PROSE COMPREHENSION			290.0(6.2)	281.7(5.5)	*****(0.0)
DOCUMENT			277.7(6.2)	279.6(6.0)	*****(0.0)
QUANTITATIVE COMPUTATION			280.1(6.3)	280.5(6.5)	*****(0.0)
OTHER	129	744,179(20%)	62.7(4.1)	37.3(4.1)	0.0(0.0)
NAEP READING PROFICIENCY			297.6(11.4)	301.4(9.8)	*****(0.0)
PROSE COMPREHENSION			303.6(8.0)	306.0(8.3)	*****(0.0)
DOCUMENT			293.4(7.6)	306.1(7.0)	*****(0.0)
QUANTITATIVE COMPUTATION			306.5(7.1)	306.4(8.5)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

WHAT IS YOUR SEX ?

	N	WEIGHTED N	MALE	FEMALE	NON RESP
ENGLISH SAMPLE (CONTINUED)					
REGION					
NORTHEAST	679	4,448,158(10%)	47.5(3.3)	52.5(3.3)	0.0(0.0)
NAEP READING PROFICIENCY			311.3(4.3)	310.4(4.9)	*****(0.0)
PROSE COMPREHENSION			311.7(3.1)	310.5(4.2)	*****(0.0)
DOCUMENT			310.6(3.9)	307.9(3.4)	*****(0.0)
QUANTITATIVE COMPUTATION			309.1(4.8)	309.0(5.4)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	47.7(1.4)	52.3(1.4)	0.0(0.0)
NAEP READING PROFICIENCY			289.0(6.1)	294.1(3.9)	*****(0.0)
PROSE COMPREHENSION			289.9(8.2)	289.8(4.9)	*****(0.0)
DOCUMENT			291.5(7.0)	291.4(3.1)	*****(0.0)
QUANTITATIVE COMPUTATION			290.2(7.3)	290.9(3.4)	*****(0.0)
CENTRAL	800	5,364,920(12%)	49.4(2.8)	50.6(2.8)	0.0(0.0)
NAEP READING PROFICIENCY			307.1(5.7)	307.7(4.2)	*****(0.0)
PROSE COMPREHENSION			311.2(5.7)	307.4(3.0)	*****(0.0)
DOCUMENT			310.7(4.3)	308.7(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			312.5(4.6)	310.8(4.0)	*****(0.0)
WEST	1098	5,766,608(12%)	49.3(1.9)	50.7(1.9)	0.0(0.0)
NAEP READING PROFICIENCY			310.6(4.7)	309.9(5.4)	*****(0.0)
PROSE COMPREHENSION			309.3(4.7)	310.4(5.0)	*****(0.0)
DOCUMENT			308.2(5.7)	310.8(4.0)	*****(0.0)
QUANTITATIVE COMPUTATION			307.3(4.9)	309.8(4.5)	*****(0.0)
EDUCATION LEVEL					
LESS THAN HIGH SCHOOL	77	374,926(22%)	53.5(8.1)	46.5(8.1)	0.0(0.0)
NAEP READING PROFICIENCY			225.6(10.2)	245.2(11.3)	*****(0.0)
PROSE COMPREHENSION			241.2(18.5)	233.0(8.5)	*****(0.0)
DOCUMENT			224.8(20.4)	225.9(6.6)	*****(0.0)
QUANTITATIVE COMPUTATION			237.0(11.7)	232.4(13.5)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	44.6(3.2)	55.4(3.2)	0.0(0.0)
NAEP READING PROFICIENCY			263.9(5.6)	261.7(3.3)	*****(0.0)
PROSE COMPREHENSION			262.1(7.4)	263.5(3.7)	*****(0.0)
DOCUMENT			252.1(5.9)	259.8(3.9)	*****(0.0)
QUANTITATIVE COMPUTATION			259.6(5.9)	262.5(3.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

WHAT IS YOUR SEX ?

	N	WEIGHTED N	MALE	FEMALE	NON RESP
ENGLISH SAMPLE (CONTINUED)					
EDUCATION LEVEL (CONTINUED)					
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	46.9(1.6)	53.1(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			294.6(2.7)	297.7(2.0)	*****(0.0)
PROSE COMPREHENSION			295.0(2.8)	295.5(2.5)	*****(0.0)
DOCUMENT			294.3(3.0)	296.6(2.2)	*****(0.0)
QUANTITATIVE COMPUTATION			292.6(3.1)	298.6(2.6)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	51.9(2.0)	48.1(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			333.3(3.6)	338.2(3.7)	*****(0.0)
PROSE COMPREHENSION			335.2(2.5)	338.4(2.8)	*****(0.0)
DOCUMENT			339.2(2.4)	339.5(2.7)	*****(0.0)
QUANTITATIVE COMPUTATION			337.3(2.8)	336.2(3.5)	*****(0.0)
PARENTAL EDUCATION					
0 - 8 YEARS	357	1,424,884(11%)	45.6(3.4)	54.4(3.4)	0.0(0.0)
NAEP READING PROFICIENCY			277.2(8.4)	272.8(5.8)	*****(0.0)
PROSE COMPREHENSION			266.8(8.5)	269.2(5.0)	*****(0.0)
DOCUMENT			265.3(10.4)	268.6(4.8)	*****(0.0)
QUANTITATIVE COMPUTATION			259.6(7.0)	274.1(4.7)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	42.7(2.9)	57.3(2.9)	0.0(0.0)
NAEP READING PROFICIENCY			269.0(5.6)	274.6(3.8)	*****(0.0)
PROSE COMPREHENSION			271.2(6.7)	273.7(3.8)	*****(0.0)
DOCUMENT			273.3(5.0)	273.8(3.2)	*****(0.0)
QUANTITATIVE COMPUTATION			278.4(5.2)	276.5(4.1)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	48.1(1.5)	51.9(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			302.9(2.6)	306.9(2.1)	*****(0.0)
PROSE COMPREHENSION			303.9(3.4)	304.8(2.7)	*****(0.0)
DOCUMENT			303.5(3.4)	304.7(2.1)	*****(0.0)
QUANTITATIVE COMPUTATION			301.1(2.7)	304.7(2.3)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	51.9(2.3)	48.1(2.3)	0.0(0.0)
NAEP READING PROFICIENCY			325.8(3.8)	328.0(4.8)	*****(0.0)
PROSE COMPREHENSION			328.7(3.4)	329.6(3.0)	*****(0.0)
DOCUMENT			328.0(3.6)	330.8(2.4)	*****(0.0)
QUANTITATIVE COMPUTATION			329.2(4.8)	329.0(3.5)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

WHAT IS YOUR SEX ?

	N	WEIGHTED N	MALE	FEMALE	NON RESP
ENGLISH SAMPLE (CONTINUED)					
EMPLOYMENT STATUS					
FULL-TIME ALL YEAR	1474	9,571,878(6%)	55.5(1.7)	44.5(1.7)	0.0(0.0)
NAEP READING PROFICIENCY			298.8(3.2)	308.0(3.3)	*****(0.0)
PROSE COMPREHENSION			300.4(3.3)	307.0(3.1)	*****(0.0)
DOCUMENT			300.0(3.1)	305.6(2.2)	*****(0.0)
QUANTITATIVE COMPUTATION			297.8(3.3)	306.6(3.3)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	43.5(3.0)	56.5(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			319.6(5.1)	322.1(4.9)	*****(0.0)
PROSE COMPREHENSION			322.9(6.2)	319.1(4.7)	*****(0.0)
DOCUMENT			326.9(6.1)	324.0(4.0)	*****(0.0)
QUANTITATIVE COMPUTATION			323.2(7.0)	322.7(4.3)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	55.9(2.6)	44.1(2.6)	0.0(0.0)
NAEP READING PROFICIENCY			311.9(5.1)	305.9(4.4)	*****(0.0)
PROSE COMPREHENSION			308.5(4.7)	306.2(5.7)	*****(0.0)
DOCUMENT			311.0(4.7)	308.3(4.0)	*****(0.0)
QUANTITATIVE COMPUTATION			311.1(5.2)	308.1(3.8)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)					
PART-TIME PART OF YEAR	275	1,761,586(11%)	39.5(3.8)	60.5(3.8)	0.0(0.0)
NAEP READING PROFICIENCY			305.8(9.6)	316.3(6.2)	*****(0.0)
PROSE COMPREHENSION			311.3(9.1)	315.3(6.3)	*****(0.0)
DOCUMENT			304.8(7.2)	315.7(5.3)	*****(0.0)
QUANTITATIVE COMPUTATION			308.7(7.8)	313.2(5.2)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	48.1(6.5)	51.9(6.5)	0.0(0.0)
NAEP READING PROFICIENCY			268.3(13.9)	252.9(6.1)	*****(0.0)
PROSE COMPREHENSION			260.7(13.5)	251.0(11.7)	*****(0.0)
DOCUMENT			243.0(9.9)	247.8(8.5)	*****(0.0)
QUANTITATIVE COMPUTATION			258.6(13.4)	258.1(6.5)	*****(0.0)
IN SCHOOL	161	851,851(20%)	53.8(5.1)	46.2(5.1)	0.0(0.0)
NAEP READING PROFICIENCY			314.7(11.4)	312.0(10.1)	*****(0.0)
PROSE COMPREHENSION			318.2(8.7)	308.2(8.7)	*****(0.0)
DOCUMENT			313.9(10.0)	313.7(7.3)	*****(0.0)
QUANTITATIVE COMPUTATION			327.5(9.6)	312.5(9.7)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	2.0(0.9)	98.0(0.9)	0.0(0.0)
NAEP READING PROFICIENCY			273.6(22.8)	277.5(4.5)	*****(0.0)
PROSE COMPREHENSION			293.1(41.2)	279.2(4.9)	*****(0.0)
DOCUMENT			268.7(20.7)	275.8(4.9)	*****(0.0)
QUANTITATIVE COMPUTATION			239.8(29.6)	278.3(5.8)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

WHAT IS YOUR SEX ?

	N	WEIGHTED N	MALE	FEMALE	NON RESP
SPANISH SAMPLE	80	213,081(31%)	39.4(6.2)	60.6(6.2)	0.0(0.0)
NAEP READING PROFICIENCY			159.0(11.6)	163.6(12.2)	*****(0.0)
PROSE COMPREHENSION			152.5(14.5)	160.1(12.3)	*****(0.0)
DOCUMENT			130.1(11.5)	142.0(7.3)	*****(0.0)
QUANTITATIVE COMPUTATION			145.6(16.4)	157.7(8.2)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	61.5(7.7)	38.5(7.7)	0.0(0.0)
NAEP READING PROFICIENCY			172.0(20.8)	163.6(19.6)	*****(0.0)
PROSE COMPREHENSION			164.7(16.2)	161.2(12.8)	*****(0.0)
DOCUMENT			149.6(10.3)	141.5(13.0)	*****(0.0)
QUANTITATIVE COMPUTATION			158.4(24.3)	148.8(13.5)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

COMPUTED ETHNICITY/RACE

	N	WEIGHTED N	WHITE	BLACK	HISPANIC	AMER IND	ASIAN	UNCLASS	NON RESP
ENGLISH SAMPLE									
-- TOTAL --	3474	20,720,464(5%)	77.3(1.6)	13.0(1.1)	6.1(0.8)	1.1(0.4)	2.0(0.5)	0.6(0.2)	0.0(0.0)
NAEP READING PROFICIENCY			313.8(2.0)	263.3(2.4)	286.6(4.7)	286.2(12.0)	309.0(11.9)	288.8(15.4)	*****(0.0)
PROSE COMPREHENSION			314.4(1.9)	258.3(2.4)	285.5(4.5)	291.6(10.2)	309.3(8.1)	312.6(12.3)	*****(0.0)
DOCUMENT			315.7(1.9)	255.7(2.8)	278.7(4.4)	278.2(8.2)	311.8(6.1)	288.5(11.4)	*****(0.0)
QUANTITATIVE COMPUTATION			314.6(2.2)	259.1(2.3)	280.3(5.0)	293.6(11.4)	317.1(6.5)	293.6(10.1)	*****(0.0)
SEX									
MALE	1544	10,054,793(6%)	78.5(1.9)	11.2(1.2)	5.7(0.9)	1.2(0.5)	2.7(0.7)	0.8(0.3)	0.0(0.0)
NAEP READING PROFICIENCY			312.0(2.5)	263.4(5.0)	287.9(4.1)	282.9(23.6)	305.5(16.9)	293.1(16.4)	*****(0.0)
PROSE COMPREHENSION			314.2(2.6)	253.9(4.9)	290.0(6.2)	277.4(16.8)	311.0(11.0)	318.4(18.7)	*****(0.0)
DOCUMENT			315.7(2.7)	251.6(3.9)	277.7(6.2)	272.3(10.1)	305.4(10.1)	284.6(11.2)	*****(0.0)
QUANTITATIVE COMPUTATION			313.6(3.2)	255.7(3.8)	280.1(6.3)	293.0(13.0)	318.7(7.6)	284.9(14.4)	*****(0.0)
FEMALE	1930	10,665,671(6%)	76.2(1.8)	14.7(1.5)	6.5(0.9)	1.0(0.4)	1.3(0.4)	0.3(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			315.4(2.4)	263.3(2.8)	285.6(7.0)	289.9(10.2)	315.8(13.4)	279.6(26.4)	*****(0.0)
PROSE COMPREHENSION			314.6(2.0)	261.5(3.2)	281.7(5.5)	308.1(12.1)	306.0(12.9)	300.1(25.2)	*****(0.0)
DOCUMENT			315.7(1.8)	258.7(3.1)	279.6(6.0)	285.1(15.9)	324.4(9.0)	297.0(21.6)	*****(0.0)
QUANTITATIVE COMPUTATION			315.6(2.4)	261.6(3.6)	280.5(6.5)	294.3(11.2)	313.9(10.2)	312.5(15.7)	*****(0.0)
ETHNICITY/RACE									
WHITE	1997	16,018,109(6%)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			313.8(2.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			314.4(1.9)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			315.7(1.9)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			314.6(2.2)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
BLACK	957	2,693,192(8%)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	263.3(2.4)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	258.3(2.4)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	255.7(2.8)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	259.1(2.3)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
HISPANIC	391	1,264,984(12%)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	286.6(4.7)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	285.5(4.5)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	278.7(4.4)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	280.3(5.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
OTHER	129	744,179(20%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	29.9(10.8)	54.5(10.1)	15.5(4.6)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	286.2(12.0)	309.0(11.9)	288.8(15.4)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	291.6(10.2)	309.3(8.1)	312.6(12.3)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	278.2(8.2)	311.8(6.1)	288.5(11.4)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	293.6(11.4)	317.1(6.5)	293.6(10.1)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

COMPUTED ETHNICITY/RACE

	N	WEIGHTED N	WHITE	BLACK	HISPANIC	AMER IND	ASIAN	UNCLASS	NON RESP
ENGLISH SAMPLE (CONTINUED)									
REGION									
NORTHEAST	679	4,448,158(10%)	83.3(3.2)	11.5(2.8)	3.7(0.7)	0.1(0.1)	1.1(0.7)	0.4(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			318.0(4.1)	272.4(4.5)	278.3(10.7)	345.0(27.2)	296.2(14.4)	234.4(20.5)	*****(0.0)
PROSE COMPREHENSION			318.8(3.4)	264.7(5.2)	278.2(14.1)	309.0(63.7)	331.7(19.5)	268.5(16.3)	*****(0.0)
DOCUMENT			318.2(3.3)	261.2(3.0)	259.5(8.6)	215.8(27.5)	321.9(19.2)	243.9(11.0)	*****(0.0)
QUANTITATIVE COMPUTATION			316.5(5.1)	268.1(4.4)	268.3(18.2)	318.7(61.5)	323.5(14.2)	271.0(8.7)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	74.6(2.9)	19.9(3.1)	2.7(1.9)	0.4(0.3)	2.2(1.7)	0.1(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			302.2(2.7)	251.0(4.0)	294.9(3.9)	276.0(27.7)	303.8(43.5)	262.8(7.4)	*****(0.0)
PROSE COMPREHENSION			301.5(5.5)	244.3(4.0)	295.1(7.0)	282.8(29.0)	302.3(53.1)	316.6(40.5)	*****(0.0)
DOCUMENT			304.4(3.6)	243.7(6.0)	283.0(3.6)	253.0(10.1)	302.1(41.3)	303.8(26.2)	*****(0.0)
QUANTITATIVE COMPUTATION			301.4(2.9)	246.7(3.7)	301.4(6.3)	296.3(21.6)	310.8(38.3)	226.5(25.2)	*****(0.0)
CENTRAL	800	5,364,920(12%)	82.3(3.3)	12.7(2.6)	2.5(0.9)	0.4(0.2)	1.8(0.8)	0.4(0.4)	0.0(0.0)
NAEP READING PROFICIENCY			313.8(4.2)	267.4(6.1)	305.6(16.5)	295.2(31.5)	303.1(23.1)	295.4(45.3)	*****(0.0)
PROSE COMPREHENSION			316.9(4.4)	267.7(5.9)	290.5(18.3)	299.7(29.5)	284.5(37.7)	308.1(16.7)	*****(0.0)
DOCUMENT			318.0(4.2)	260.9(3.6)	295.8(21.8)	291.1(60.9)	297.0(27.4)	313.7(27.7)	*****(0.0)
QUANTITATIVE COMPUTATION			320.1(4.5)	262.9(5.2)	287.6(15.3)	303.2(22.2)	310.0(13.9)	278.9(27.2)	*****(0.0)
WEST	1098	5,766,608(12%)	70.4(4.2)	8.3(1.6)	14.4(2.7)	3.0(1.5)	2.6(0.3)	1.3(0.5)	0.0(0.0)
NAEP READING PROFICIENCY			320.8(4.6)	274.2(6.5)	283.8(5.0)	284.9(15.2)	320.8(20.3)	299.2(15.7)	*****(0.0)
PROSE COMPREHENSION			320.0(4.0)	268.2(6.3)	284.5(5.6)	291.3(11.7)	323.1(9.3)	323.2(12.8)	*****(0.0)
DOCUMENT			321.6(3.8)	268.1(5.8)	279.1(5.0)	281.6(6.6)	325.5(7.9)	289.6(17.7)	*****(0.0)
QUANTITATIVE COMPUTATION			319.4(3.9)	270.9(8.2)	277.9(5.4)	291.5(13.5)	324.4(12.2)	305.6(11.0)	*****(0.0)
EDUCATION LEVEL									
LESS THAN HIGH SCHOOL	77	374,926(22%)	69.4(5.4)	13.3(4.6)	16.5(3.2)	0.3(0.3)	0.0(0.0)	0.6(0.6)	0.0(0.0)
NAEP READING PROFICIENCY			238.1(9.5)	215.7(14.7)	236.8(24.3)	286.4(22.3)	*****(0.0)	177.9(23.2)	*****(0.0)
PROSE COMPREHENSION			250.6(13.6)	196.9(10.4)	213.3(9.5)	245.0(26.8)	*****(0.0)	260.7(17.3)	*****(0.0)
DOCUMENT			231.4(12.9)	199.9(11.2)	219.8(22.8)	264.5(12.3)	*****(0.0)	213.4(12.3)	*****(0.0)
QUANTITATIVE COMPUTATION			243.9(10.7)	204.0(16.0)	223.7(20.3)	251.7(33.8)	*****(0.0)	173.4(39.1)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	66.8(3.2)	21.1(2.5)	8.8(1.3)	2.7(1.4)	0.4(0.3)	0.1(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			272.7(4.9)	232.7(2.9)	255.7(5.7)	267.2(52.7)	290.8(16.2)	245.2(****)	*****(0.0)
PROSE COMPREHENSION			274.9(4.5)	230.2(5.3)	247.4(5.7)	275.3(40.5)	246.8(25.1)	259.6(****)	*****(0.0)
DOCUMENT			269.6(4.5)	222.4(6.3)	238.5(3.1)	248.5(21.1)	279.4(41.8)	226.8(****)	*****(0.0)
QUANTITATIVE COMPUTATION			273.4(4.1)	225.0(4.3)	245.9(4.2)	286.4(14.9)	296.6(17.3)	272.9(****)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

COMPUTED ETHNICITY/RACE

	N	WEIGHTED N	WHITE	BLACK	HISPANIC	AMER IND	ASIAN	UNCLASS	NON RESP
ENGLISH SAMPLE (CONTINUED)									
EDUCATION LEVEL (CONTINUED)									
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	75.7(2.0)	15.0(1.4)	6.4(1.0)	1.2(0.4)	1.3(0.4)	0.5(0.2)	0.0(0.0)
NAEP READING PROFICIENCY			303.9(2.1)	263.4(3.0)	285.6(6.4)	294.4(20.4)	284.7(22.3)	283.7(17.2)	*****(0.0)
PROSE COMPREHENSION			303.7(2.2)	257.8(2.5)	286.7(5.2)	296.0(19.6)	277.7(19.4)	296.4(20.9)	*****(0.0)
DOCUMENT			305.0(2.0)	255.8(2.4)	278.5(4.6)	292.5(14.2)	286.5(15.0)	300.7(20.7)	*****(0.0)
QUANTITATIVE COMPUTATION			304.0(2.7)	260.4(2.3)	280.5(4.2)	300.9(11.8)	294.2(12.3)	295.2(14.4)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	83.8(1.5)	7.3(0.9)	4.2(0.9)	0.4(0.3)	3.5(0.9)	0.8(0.3)	0.0(0.0)
NAEP READING PROFICIENCY			340.6(2.9)	299.2(4.7)	322.5(8.9)	302.8(33.7)	321.7(11.9)	299.0(17.7)	*****(0.0)
PROSE COMPREHENSION			341.4(2.2)	295.0(5.1)	326.8(7.2)	319.0(21.7)	327.7(7.8)	329.9(15.0)	*****(0.0)
DOCUMENT			345.4(2.0)	295.0(4.8)	321.7(7.9)	298.8(54.1)	325.8(9.1)	285.4(12.5)	*****(0.0)
QUANTITATIVE COMPUTATION			342.2(2.4)	296.0(6.1)	317.6(8.5)	284.3(23.8)	329.3(6.7)	297.7(12.4)	*****(0.0)
PARENTAL EDUCATION									
0 - 8 YEARS	357	1,424,884(11%)	44.8(5.1)	23.5(3.6)	24.6(4.6)	0.0(0.0)	5.3(3.1)	1.8(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			287.9(8.2)	247.9(4.5)	272.6(8.5)	*****(0.0)	300.6(23.0)	256.3(19.7)	*****(0.0)
PROSE COMPREHENSION			277.4(8.3)	239.5(7.0)	268.2(8.4)	*****(0.0)	303.4(22.1)	302.5(17.2)	*****(0.0)
DOCUMENT			281.2(6.7)	238.2(7.8)	258.8(8.7)	*****(0.0)	310.8(36.7)	279.6(23.5)	*****(0.0)
QUANTITATIVE COMPUTATION			279.4(7.7)	245.5(4.8)	259.1(6.7)	*****(0.0)	303.0(21.7)	269.3(19.2)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	66.0(3.0)	23.8(2.8)	6.7(1.4)	1.9(0.7)	1.0(0.6)	0.5(0.4)	0.0(0.0)
NAEP READING PROFICIENCY			278.4(4.4)	250.9(4.4)	274.2(7.5)	304.8(23.1)	309.3(33.1)	240.8(22.8)	*****(0.0)
PROSE COMPREHENSION			281.8(5.3)	248.4(4.7)	259.1(8.0)	293.2(22.6)	273.3(50.0)	312.3(13.9)	*****(0.0)
DOCUMENT			284.4(3.1)	245.1(3.8)	264.7(8.3)	291.2(18.4)	292.8(44.3)	205.9(16.3)	*****(0.0)
QUANTITATIVE COMPUTATION			288.1(4.2)	245.9(6.2)	267.1(7.5)	305.7(12.0)	307.6(29.9)	314.3(17.0)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	80.9(1.7)	12.2(1.2)	4.4(0.7)	0.9(0.2)	1.3(0.5)	0.4(0.2)	0.0(0.0)
NAEP READING PROFICIENCY			311.4(1.8)	267.4(4.2)	291.6(7.1)	298.7(19.8)	301.6(23.0)	315.5(20.9)	*****(0.0)
PROSE COMPREHENSION			311.6(2.4)	260.6(3.7)	291.4(6.1)	298.7(19.9)	305.9(19.7)	331.6(20.2)	*****(0.0)
DOCUMENT			312.0(2.4)	258.9(3.4)	283.5(6.5)	291.2(14.0)	314.5(10.9)	310.9(14.7)	*****(0.0)
QUANTITATIVE COMPUTATION			309.7(2.1)	263.8(3.2)	285.8(7.2)	300.2(13.5)	308.7(20.2)	315.9(13.8)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	85.2(1.5)	6.7(1.1)	4.1(0.9)	0.9(0.7)	2.5(0.7)	0.6(0.2)	0.0(0.0)
NAEP READING PROFICIENCY			331.3(3.5)	290.9(4.2)	312.3(6.4)	279.4(35.0)	318.9(21.4)	300.4(23.7)	*****(0.0)
PROSE COMPREHENSION			332.9(2.6)	289.3(5.6)	324.6(8.1)	314.6(32.0)	325.0(17.5)	301.1(20.6)	*****(0.0)
DOCUMENT			334.7(2.4)	284.3(5.1)	313.4(9.0)	280.9(56.1)	318.6(16.8)	299.9(9.0)	*****(0.0)
QUANTITATIVE COMPUTATION			334.0(3.3)	285.5(6.3)	314.1(12.1)	277.8(14.5)	335.2(6.8)	281.6(17.9)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

COMPUTED ETHNICITY/RACE

	N	WEIGHTED N	WHITE	BLACK	HISPANIC	AMER IND	ASIAN	UNCLASS	NON RESP
ENGLISH SAMPLE (CONTINUED)									
EMPLOYMENT STATUS									
FULL-TIME ALL YEAR	1474	9,571,878(6%)	79.0(1.8)	11.9(1.1)	6.6(1.1)	1.1(0.4)	1.2(0.5)	0.3(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			310.4(2.3)	264.3(4.3)	288.3(6.3)	279.4(15.6)	294.1(18.4)	294.7(12.7)	*****(0.0)
PROSE COMPREHENSION			311.3(2.7)	260.4(3.8)	286.9(5.4)	300.3(22.5)	293.5(21.7)	308.7(28.2)	*****(0.0)
DOCUMENT			311.2(2.2)	260.4(4.2)	275.7(5.0)	280.1(19.4)	309.7(21.7)	306.0(19.1)	*****(0.0)
QUANTITATIVE COMPUTATION			310.2(2.7)	259.5(3.1)	277.5(7.2)	290.9(12.1)	301.9(19.3)	298.1(18.4)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	77.8(2.7)	11.8(2.1)	6.1(1.5)	1.0(0.5)	3.2(1.4)	0.1(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			329.7(3.7)	276.3(9.4)	303.7(6.2)	325.6(18.5)	310.3(20.5)	265.3(29.9)	*****(0.0)
PROSE COMPREHENSION			329.5(3.5)	269.5(7.1)	303.0(9.5)	320.2(37.5)	334.4(17.0)	263.6(30.1)	*****(0.0)
DOCUMENT			335.8(3.6)	268.0(7.1)	307.6(11.1)	300.8(32.5)	324.1(16.1)	260.5(30.7)	*****(0.0)
QUANTITATIVE COMPUTATION			332.7(4.7)	271.4(5.3)	298.5(10.2)	317.3(26.0)	326.7(14.4)	282.6(37.5)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	77.5(2.6)	12.9(1.4)	5.4(1.5)	1.5(0.9)	1.8(0.7)	1.0(0.4)	0.0(0.0)
NAEP READING PROFICIENCY			318.0(4.3)	264.1(4.5)	296.7(8.1)	268.4(62.1)	326.8(25.0)	309.2(19.9)	*****(0.0)
PROSE COMPREHENSION			316.6(4.0)	258.7(5.3)	302.0(8.0)	253.0(77.2)	314.2(24.2)	330.9(16.3)	*****(0.0)
DOCUMENT			321.4(3.2)	254.8(4.7)	292.4(8.5)	255.5(33.5)	299.8(18.1)	313.0(19.0)	*****(0.0)
QUANTITATIVE COMPUTATION			318.2(4.0)	264.9(4.5)	296.2(9.8)	288.0(15.1)	327.3(17.4)	309.8(17.8)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)									
PART-TIME PART OF YEAR	275	1,761,586(11%)	83.3(2.1)	11.0(1.9)	3.9(1.0)	0.6(0.5)	0.4(0.3)	0.7(0.5)	0.0(0.0)
NAEP READING PROFICIENCY			320.6(6.4)	261.6(6.7)	287.0(11.1)	265.6(45.5)	311.4(22.5)	288.6(****)	*****(0.0)
PROSE COMPREHENSION			322.5(6.5)	255.9(7.7)	279.5(9.4)	301.4(20.3)	366.7(27.1)	339.7(45.8)	*****(0.0)
DOCUMENT			321.0(5.0)	246.9(7.5)	292.2(12.8)	282.6(51.0)	347.9(34.8)	287.8(44.1)	*****(0.0)
QUANTITATIVE COMPUTATION			320.2(4.9)	254.9(6.8)	291.6(12.6)	277.5(56.5)	331.7(23.9)	280.9(****)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	49.3(7.2)	40.8(6.6)	8.8(2.4)	0.2(0.2)	0.9(0.9)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			278.7(11.3)	243.3(7.2)	231.5(17.1)	335.4(43.8)	289.5(****)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			277.6(14.7)	234.9(10.5)	225.7(11.2)	302.8(22.8)	271.2(****)	*****(0.0)	*****(0.0)
DOCUMENT			268.9(7.8)	222.5(6.3)	212.5(12.6)	207.1(17.5)	351.2(****)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			281.5(11.5)	236.8(6.7)	221.1(17.9)	274.7(22.0)	325.1(****)	*****(0.0)	*****(0.0)
IN SCHOOL	161	851,851(20%)	60.7(5.8)	16.6(4.1)	4.2(1.7)	0.0(0.0)	14.7(7.2)	3.7(2.2)	0.0(0.0)
NAEP READING PROFICIENCY			325.9(10.0)	286.2(10.1)	283.5(13.6)	*****(0.0)	313.1(35.8)	268.8(21.0)	*****(0.0)
PROSE COMPREHENSION			327.9(8.5)	279.4(12.1)	297.3(22.0)	*****(0.0)	301.6(30.3)	298.6(17.4)	*****(0.0)
DOCUMENT			329.6(7.5)	278.8(11.9)	288.2(14.6)	*****(0.0)	309.6(25.2)	259.3(39.8)	*****(0.0)
QUANTITATIVE COMPUTATION			335.8(9.4)	278.8(11.9)	305.1(17.2)	*****(0.0)	318.4(6.3)	284.5(6.0)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	76.3(3.1)	14.5(2.2)	8.0(1.7)	0.9(0.5)	0.2(0.2)	0.1(0.1)	0.0(0.0)
NAEP READING PROFICIENCY			286.6(5.3)	239.6(7.0)	255.1(8.6)	321.3(63.5)	264.8(****)	229.8(****)	*****(0.0)
PROSE COMPREHENSION			291.6(5.6)	235.9(8.1)	243.4(7.5)	297.0(21.5)	236.5(****)	239.7(****)	*****(0.0)
DOCUMENT			288.2(5.7)	230.2(5.8)	240.7(5.9)	278.1(20.1)	234.0(****)	178.0(****)	*****(0.0)
QUANTITATIVE COMPUTATION			289.5(6.7)	231.7(6.5)	246.6(6.6)	282.8(49.3)	255.3(****)	243.3(****)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

COMPUTED ETHNICITY/RACE

	N	WEIGHTED N	WHITE	BLACK	HISPANIC	AMER IND	ASIAN	UNCLASS	NON RESP
SPANISH SAMPLE	80	213,081(31%)	9.9(4.1)	0.0(0.0)	90.1(4.1)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			179.4(19.5)	*****(0.0)	159.8(9.1)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			187.3(24.1)	*****(0.0)	153.8(9.6)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			157.7(15.4)	*****(0.0)	135.1(5.1)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			174.6(32.9)	*****(0.0)	150.5(7.6)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	33.7(7.0)	48.1(7.8)	10.8(4.4)	0.0(0.0)	1.9(1.4)	5.5(4.0)	0.0(0.0)
NAEP READING PROFICIENCY			192.1(17.3)	157.2(21.8)	159.1(12.5)	*****(0.0)	201.5(40.3)	134.5(61.9)	*****(0.0)
PROSE COMPREHENSION			196.0(21.3)	144.1(10.8)	141.3(16.2)	*****(0.0)	158.4(19.3)	176.2(6.7)	*****(0.0)
DOCUMENT			184.9(17.0)	126.7(8.5)	124.9(10.5)	*****(0.0)	146.7(34.7)	125.7(33.4)	*****(0.0)
QUANTITATIVE COMPUTATION			186.9(23.2)	134.2(21.0)	144.9(19.6)	*****(0.0)	151.5(29.9)	156.4(49.0)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  REGION OF COUNTRY

                                 N        WEIGHTED N          N.E.            S.E.            CENTRAL         WEST            NON RESP

ENGLISH SAMPLE
-- TOTAL --                   3474    20,720,464( 5%)      21.5( 2.3)      24.8( 3.8)      25.9( 2.8)      27.8( 3.2)      0.0( 0.0)

    NAEP READING PROFICIENCY                              310.8( 3.6)     291.7( 3.1)     307.4( 3.8)     310.2( 4.6)    *****( 0.0)
    PROSE COMPREHENSION                                   311.1( 2.9)     289.8( 5.9)     309.3( 3.8)     309.9( 4.4)    *****( 0.0)
    DOCUMENT                                              309.2( 2.5)     291.4( 4.4)     309.7( 3.7)     309.5( 4.5)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              309.1( 4.1)     290.6( 3.6)     311.7( 3.9)     308.5( 4.2)    *****( 0.0)

SEX
  MALE                        1544    10,054,793( 6%)      21.0( 2.7)      24.4( 3.9)      26.3( 3.1)      28.2( 3.8)      0.0( 0.0)

    NAEP READING PROFICIENCY                              311.3( 4.3)     289.0( 6.1)     307.1( 5.7)     310.6( 4.7)    *****( 0.0)
    PROSE COMPREHENSION                                   311.7( 3.1)     289.9( 8.2)     311.2( 5.7)     309.3( 4.7)    *****( 0.0)
    DOCUMENT                                              310.6( 3.9)     291.5( 7.0)     310.7( 4.3)     308.2( 5.7)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              309.1( 4.8)     290.2( 7.3)     312.5( 4.6)     307.3( 4.9)    *****( 0.0)

  FEMALE                      1930    10,665,671( 6%)      21.9( 2.5)      25.2( 3.9)      25.5( 2.9)      27.4( 2.8)      0.0( 0.0)

    NAEP READING PROFICIENCY                              310.4( 4.9)     294.1( 3.9)     307.7( 4.2)     309.9( 5.4)    *****( 0.0)
    PROSE COMPREHENSION                                   310.5( 4.2)     289.8( 4.9)     307.4( 3.0)     310.4( 5.0)    *****( 0.0)
    DOCUMENT                                              307.9( 3.4)     291.4( 3.1)     308.7( 4.3)     310.8( 4.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              309.0( 5.4)     290.9( 3.4)     310.8( 4.0)     309.8( 4.5)    *****( 0.0)

ETHNICITY/RACE
  WHITE                       1997    16,018,109( 6%)      23.1( 2.9)      24.0( 4.3)      27.6( 3.3)      25.3( 3.9)      0.0( 0.0)

    NAEP READING PROFICIENCY                              318.0( 4.1)     302.2( 2.7)     313.8( 4.2)     320.8( 4.6)    *****( 0.0)
    PROSE COMPREHENSION                                   318.8( 3.4)     301.5( 5.5)     316.9( 4.4)     320.0( 4.0)    *****( 0.0)
    DOCUMENT                                              318.2( 3.3)     304.4( 3.6)     318.0( 4.2)     321.6( 3.8)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              316.5( 5.1)     301.4( 2.9)     320.1( 4.5)     319.4( 3.9)    *****( 0.0)

  BLACK                        957     2,693,192( 8%)      18.9( 4.1)      38.1( 3.9)      25.2( 4.5)      17.8( 2.5)      0.0( 0.0)

    NAEP READING PROFICIENCY                              272.4( 4.5)     251.0( 4.0)     267.4( 6.1)     274.2( 6.5)    *****( 0.0)
    PROSE COMPREHENSION                                   264.7( 5.2)     244.3( 4.0)     267.7( 5.9)     268.2( 6.3)    *****( 0.0)
    DOCUMENT                                              261.2( 3.0)     243.7( 6.0)     260.9( 3.6)     268.1( 5.8)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              268.1( 4.4)     246.7( 3.7)     262.9( 5.2)     270.9( 8.2)    *****( 0.0)

  HISPANIC                     391     1,264,984(12%)      12.8( 2.6)      11.1( 6.5)      10.5( 3.5)      65.5( 6.3)      0.0( 0.0)

    NAEP READING PROFICIENCY                              278.3(10.7)     294.9( 3.9)     305.6(16.5)     283.8( 5.0)    *****( 0.0)
    PROSE COMPREHENSION                                   278.2(14.1)     295.1( 7.0)     290.5(18.3)     284.5( 5.6)    *****( 0.0)
    DOCUMENT                                              259.5( 8.6)     283.0( 3.6)     295.8(21.8)     279.1( 5.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              268.3(18.2)     301.4( 6.3)     287.6(15.3)     277.9( 5.4)    *****( 0.0)

  OTHER                        129       744,179(20%)       9.2( 4.1)      18.6(12.0)      18.7( 8.5)      53.5(11.4)      0.0( 0.0)

    NAEP READING PROFICIENCY                              285.4(10.9)     298.5(39.2)     300.7(16.7)     301.0(15.2)    *****( 0.0)
    PROSE COMPREHENSION                                   315.8(18.8)     299.4(44.5)     290.7(25.9)     309.2( 9.6)    *****( 0.0)
    DOCUMENT                                              297.1(16.5)     294.1(37.2)     298.8(19.9)     299.5( 7.6)    *****( 0.0)
    QUANTITATIVE COMPUTATION                              311.2(13.5)     306.7(35.4)     303.9(11.0)     306.4(11.1)    *****( 0.0)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

REGION OF COUNTRY

	N	WEIGHTED N	N.E.	S.E.	CENTRAL	WEST	NON RESP
ENGLISH SAMPLE (CONTINUED)							
REGION							
NORTHEAST	679	4,448,158(10%)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			310.8(3.6)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			311.1(2.9)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			309.2(2.5)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			309.1(4.1)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	291.7(3.1)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	289.8(5.9)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	291.4(4.4)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	290.6(3.6)	*****(0.0)	*****(0.0)	*****(0.0)
CENTRAL	800	5,364,920(12%)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	307.4(3.8)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	309.3(3.8)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	309.7(3.7)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	311.7(3.9)	*****(0.0)	*****(0.0)
WEST	1098	5,766,608(12%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	310.2(4.6)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	309.9(4.4)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	309.5(4.5)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	308.5(4.2)	*****(0.0)
EDUCATION LEVEL							
LESS THAN HIGH SCHOOL	77	374,926(22%)	16.3(7.0)	38.8(11.2)	27.1(15.7)	17.9(6.5)	0.0(0.0)
NAEP READING PROFICIENCY			216.5(21.2)	234.3(13.0)	250.0(26.3)	229.1(10.7)	*****(0.0)
PROSE COMPREHENSION			236.0(15.0)	219.7(9.6)	266.8(38.8)	232.5(10.8)	*****(0.0)
DOCUMENT			205.9(16.0)	220.7(12.0)	240.2(45.1)	230.6(10.3)	*****(0.0)
QUANTITATIVE COMPUTATION			241.1(14.3)	236.6(14.7)	242.8(41.6)	213.6(15.6)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	14.9(3.1)	31.9(4.6)	24.5(2.9)	28.7(4.4)	0.0(0.0)
NAEP READING PROFICIENCY			255.4(8.0)	255.5(7.4)	263.7(4.4)	273.6(6.1)	*****(0.0)
PROSE COMPREHENSION			253.7(7.3)	252.2(7.6)	268.9(10.1)	274.5(6.9)	*****(0.0)
DOCUMENT			261.0(8.0)	245.4(7.9)	259.2(4.4)	263.7(6.0)	*****(0.0)
QUANTITATIVE COMPUTATION			252.4(9.1)	251.9(6.0)	266.8(5.7)	271.2(5.0)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

REGION OF COUNTRY

	N	WEIGHTED N	N.E.	S.E.	CENTRAL	WEST	NON RESP
ENGLISH SAMPLE (CONTINUED)							
EDUCATION LEVEL (CONTINUED)							
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	19.7(2.9)	26.7(3.6)	26.4(3.3)	27.2(3.4)	0.0(0.0)
NAEP READING PROFICIENCY			299.2(3.0)	287.2(3.5)	298.5(3.5)	300.9(3.4)	*****(0.0)
PROSE COMPREHENSION			296.2(5.0)	284.1(5.2)	299.8(2.7)	301.2(5.1)	*****(0.0)
DOCUMENT			294.2(2.8)	287.5(2.4)	298.9(2.7)	301.0(5.4)	*****(0.0)
QUANTITATIVE COMPUTATION			294.8(3.9)	284.7(3.6)	303.3(3.5)	300.0(3.7)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	26.5(3.2)	19.1(4.9)	25.7(3.9)	28.7(5.0)	0.0(0.0)
NAEP READING PROFICIENCY			336.5(5.4)	327.7(5.9)	337.8(4.3)	338.1(4.8)	*****(0.0)
PROSE COMPREHENSION			339.8(2.9)	330.7(4.0)	338.6(3.9)	336.4(3.7)	*****(0.0)
DOCUMENT			337.0(2.9)	333.9(4.0)	345.6(4.7)	339.5(3.0)	*****(0.0)
QUANTITATIVE COMPUTATION			336.9(5.2)	330.6(5.4)	342.2(4.4)	335.8(4.2)	*****(0.0)
PARENTAL EDUCATION							
0 - 8 YEARS	357	1,424,884(11%)	8.3(1.5)	40.7(7.5)	22.7(5.2)	28.3(5.5)	0.0(0.0)
NAEP READING PROFICIENCY			268.6(15.9)	262.4(9.1)	297.5(8.4)	276.4(6.5)	*****(0.0)
PROSE COMPREHENSION			259.4(11.4)	257.5(13.4)	283.2(6.5)	273.7(6.5)	*****(0.0)
DOCUMENT			257.6(11.4)	254.5(9.0)	288.3(11.8)	271.2(10.7)	*****(0.0)
QUANTITATIVE COMPUTATION			273.2(13.2)	254.7(8.5)	283.6(10.5)	271.3(8.1)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	13.4(2.9)	42.4(5.2)	26.3(4.4)	17.9(2.9)	0.0(0.0)
NAEP READING PROFICIENCY			258.9(10.1)	270.8(5.4)	279.6(5.8)	274.6(8.1)	*****(0.0)
PROSE COMPREHENSION			261.8(8.3)	268.1(7.5)	284.7(7.3)	273.8(6.0)	*****(0.0)
DOCUMENT			268.0(5.7)	272.4(5.0)	279.1(5.9)	272.2(6.3)	*****(0.0)
QUANTITATIVE COMPUTATION			262.6(8.3)	275.3(5.4)	286.7(6.6)	279.4(6.9)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	24.3(3.2)	22.2(4.0)	27.5(2.8)	26.0(3.3)	0.0(0.0)
NAEP READING PROFICIENCY			308.5(3.2)	298.0(4.0)	305.9(4.7)	306.6(2.0)	*****(0.0)
PROSE COMPREHENSION			307.5(3.5)	294.9(6.6)	308.2(4.1)	305.6(5.1)	*****(0.0)
DOCUMENT			308.7(4.3)	294.2(5.0)	307.9(3.9)	304.5(4.9)	*****(0.0)
QUANTITATIVE COMPUTATION			304.5(4.6)	294.4(3.6)	310.2(4.2)	301.3(3.6)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	22.7(2.9)	18.6(3.8)	24.5(4.7)	34.2(5.5)	0.0(0.0)
NAEP READING PROFICIENCY			332.8(6.2)	316.4(6.3)	325.5(5.0)	329.5(6.8)	*****(0.0)
PROSE COMPREHENSION			334.7(5.6)	318.7(5.4)	329.2(4.8)	331.0(4.2)	*****(0.0)
DOCUMENT			325.9(3.9)	324.5(5.7)	332.5(5.2)	332.0(5.0)	*****(0.0)
QUANTITATIVE COMPUTATION			332.5(6.7)	318.2(6.4)	332.0(6.0)	330.7(4.7)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

REGION OF COUNTRY

	N	WEIGHTED N	N.E.	S.E.	CENTRAL	WEST	NON RESP
ENGLISH SAMPLE (CONTINUED)							
EMPLOYMENT STATUS							
FULL-TIME ALL YEAR	1474	9,571,878(6%)	21.9(3.0)	26.0(3.5)	24.9(3.1)	27.2(3.3)	0.0(0.0)
NAEP READING PROFICIENCY			312.1(3.7)	291.2(3.7)	307.1(4.8)	302.7(4.7)	*****(0.0)
PROSE COMPREHENSION			312.5(5.5)	287.6(5.5)	309.5(4.8)	305.4(4.2)	*****(0.0)
DOCUMENT			310.5(4.0)	290.2(4.3)	308.5(3.6)	302.3(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			307.4(5.3)	286.7(3.8)	314.4(4.9)	299.8(3.7)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	22.6(3.7)	21.5(6.1)	28.2(5.9)	27.8(5.8)	0.0(0.0)
NAEP READING PROFICIENCY			321.7(7.6)	307.5(11.0)	322.9(6.1)	329.1(6.2)	*****(0.0)
PROSE COMPREHENSION			323.3(5.1)	311.1(11.5)	318.5(7.0)	328.5(6.6)	*****(0.0)
DOCUMENT			323.1(8.5)	315.2(12.5)	329.6(5.1)	330.4(5.7)	*****(0.0)
QUANTITATIVE COMPUTATION			321.3(8.9)	315.2(10.1)	323.3(7.2)	329.9(6.1)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	20.4(2.0)	22.9(3.8)	22.9(2.7)	33.8(3.9)	0.0(0.0)
NAEP READING PROFICIENCY			318.4(10.5)	289.3(5.6)	309.7(7.5)	316.9(5.5)	*****(0.0)
PROSE COMPREHENSION			318.0(10.5)	289.6(8.7)	311.9(6.8)	310.2(6.9)	*****(0.0)
DOCUMENT			317.6(8.4)	291.0(5.8)	312.1(4.9)	316.3(6.4)	*****(0.0)
QUANTITATIVE COMPUTATION			317.3(6.8)	292.0(4.9)	313.8(8.5)	314.5(5.1)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)							
PART-TIME PART OF YEAR	275	1,761,586(11%)	20.7(4.0)	24.8(5.3)	28.9(4.8)	25.7(6.0)	0.0(0.0)
NAEP READING PROFICIENCY			314.6(10.9)	294.1(10.2)	312.4(10.5)	327.4(9.8)	*****(0.0)
PROSE COMPREHENSION			316.9(13.7)	293.0(13.6)	322.8(9.0)	320.8(8.0)	*****(0.0)
DOCUMENT			305.0(8.3)	294.0(12.4)	321.0(6.7)	322.4(7.5)	*****(0.0)
QUANTITATIVE COMPUTATION			318.9(11.5)	290.3(8.4)	313.7(8.2)	323.3(8.3)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	19.7(5.3)	32.3(8.1)	29.9(7.2)	18.1(6.0)	0.0(0.0)
NAEP READING PROFICIENCY			264.6(15.0)	254.7(9.8)	273.4(17.6)	244.1(12.6)	*****(0.0)
PROSE COMPREHENSION			252.6(30.3)	248.7(18.0)	267.8(17.1)	251.1(8.6)	*****(0.0)
DOCUMENT			261.8(14.1)	233.4(9.2)	253.9(15.8)	235.7(11.8)	*****(0.0)
QUANTITATIVE COMPUTATION			262.2(22.0)	249.3(10.8)	267.7(17.3)	254.8(15.3)	*****(0.0)
IN SCHOOL	161	851,851(20%)	19.9(6.6)	25.5(13.4)	28.1(9.4)	26.5(8.0)	0.0(0.0)
NAEP READING PROFICIENCY			324.0(9.5)	305.6(27.5)	310.5(16.3)	316.4(18.9)	*****(0.0)
PROSE COMPREHENSION			323.4(15.1)	307.1(8.9)	302.0(14.3)	324.8(14.6)	*****(0.0)
DOCUMENT			321.4(17.0)	306.5(25.0)	308.7(13.9)	320.6(9.6)	*****(0.0)
QUANTITATIVE COMPUTATION			335.5(13.7)	313.3(20.8)	315.7(14.6)	321.3(8.6)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	23.4(5.6)	23.9(5.1)	29.9(5.7)	22.8(2.6)	0.0(0.0)
NAEP READING PROFICIENCY			266.7(6.8)	276.1(11.2)	278.6(7.3)	288.5(10.6)	*****(0.0)
PROSE COMPREHENSION			265.7(9.1)	270.5(7.3)	287.7(9.1)	292.4(12.5)	*****(0.0)
DOCUMENT			266.1(4.4)	269.8(8.6)	279.3(11.9)	286.9(10.3)	*****(0.0)
QUANTITATIVE COMPUTATION			268.1(13.7)	272.9(11.6)	276.8(9.3)	292.8(11.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

REGION OF COUNTRY

	N	WEIGHTED N	N.E.	S.E.	CENTRAL	WEST	NON RESP
SPANISH SAMPLE	80	213,081(31%)	29.5(13.1)	3.6(3.7)	3.3(1.9)	63.6(15.7)	0.0(0.0)
NAEP READING PROFICIENCY			170.3(12.4)	153.4(7.0)	151.3(25.8)	158.8(8.6)	*****(0.0)
PROSE COMPREHENSION			162.7(17.4)	162.6(22.3)	128.6(17.6)	155.7(11.1)	*****(0.0)
DOCUMENT			151.1(13.1)	144.9(16.6)	101.4(25.9)	132.3(8.5)	*****(0.0)
QUANTITATIVE COMPUTATION			154.7(20.2)	162.7(32.9)	144.9(16.1)	152.0(10.4)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	23.4(8.1)	37.1(10.0)	25.5(6.8)	14.0(5.2)	0.0(0.0)
NAEP READING PROFICIENCY			159.8(18.6)	168.2(29.5)	186.9(26.1)	152.5(29.5)	*****(0.0)
PROSE COMPREHENSION			158.1(16.0)	158.6(26.1)	181.8(21.6)	151.1(25.8)	*****(0.0)
DOCUMENT			143.1(12.7)	137.6(15.9)	171.0(22.4)	130.7(26.6)	*****(0.0)
QUANTITATIVE COMPUTATION			145.8(13.7)	155.5(33.7)	169.7(29.0)	140.2(31.1)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

INDIVIDUAL'S EDUCATION

	N	WEIGHTED N	0-8 YRS	<HS GRAD	POST HS	COL DEG	NON RESP
ENGLISH SAMPLE							
-- TOTAL --	3474	20,720,464(5%)	1.8(0.4)	13.4(1.1)	48.3(1.9)	36.5(2.1)	0.0(0.0)
NAEP READING PROFICIENCY			234.7(8.3)	262.7(3.5)	296.3(1.7)	335.6(2.8)	260.8(44.6)
PROSE COMPREHENSION			237.4(11.0)	262.9(4.0)	295.3(2.0)	336.8(1.9)	242.2(27.8)
DOCUMENT			225.3(11.9)	256.3(3.9)	295.5(1.9)	339.4(1.9)	269.6(24.0)
QUANTITATIVE COMPUTATION			234.9(10.4)	261.2(3.5)	295.8(2.2)	336.8(2.3)	289.3(31.8)
SEX							
MALE	1544	10,054,793(6%)	2.0(0.5)	12.3(1.6)	46.6(2.3)	39.1(2.5)	0.0(0.0)
NAEP READING PROFICIENCY			225.6(10.2)	263.9(5.6)	294.6(2.7)	333.3(3.6)	213.3(****)
PROSE COMPREHENSION			241.2(18.5)	262.1(7.4)	295.0(2.8)	335.2(2.5)	227.9(****)
DOCUMENT			224.8(20.4)	252.1(5.9)	294.3(3.0)	339.2(2.4)	249.6(****)
QUANTITATIVE COMPUTATION			237.0(11.7)	259.6(5.9)	292.6(3.1)	337.3(2.8)	269.7(****)
FEMALE	1930	10,665,671(6%)	1.6(0.5)	14.4(1.0)	49.8(2.1)	34.1(2.2)	0.1(0.1)
NAEP READING PROFICIENCY			245.2(11.3)	261.7(3.3)	297.7(2.0)	338.2(3.7)	271.5(28.6)
PROSE COMPREHENSION			233.0(8.5)	263.5(3.7)	295.5(2.5)	338.4(2.8)	245.4(21.9)
DOCUMENT			225.9(6.6)	259.8(3.9)	296.6(2.2)	339.5(2.7)	274.2(18.0)
QUANTITATIVE COMPUTATION			232.4(13.5)	262.5(3.2)	298.6(2.6)	336.2(3.5)	293.7(97.6)
ETHNICITY/RACE							
WHITE	1997	16,018,109(6%)	1.6(0.4)	11.5(1.3)	47.3(2.2)	39.6(2.3)	0.0(0.0)
NAEP READING PROFICIENCY			238.1(9.5)	272.7(4.9)	303.9(2.1)	340.6(2.9)	*****(0.0)
PROSE COMPREHENSION			250.6(13.6)	274.9(4.5)	303.7(2.2)	341.4(2.2)	*****(0.0)
DOCUMENT			231.4(12.9)	269.6(4.5)	305.0(2.0)	345.4(2.0)	*****(0.0)
QUANTITATIVE COMPUTATION			243.9(10.7)	273.4(4.1)	304.0(2.7)	342.2(2.4)	*****(0.0)
BLACK	957	2,693,192(8%)	1.8(0.5)	21.7(1.5)	55.6(1.6)	20.6(1.8)	0.3(0.3)
NAEP READING PROFICIENCY			215.7(14.7)	232.7(2.9)	263.4(3.0)	299.2(4.7)	271.5(28.6)
PROSE COMPREHENSION			196.9(10.4)	230.2(5.3)	257.8(2.5)	295.0(5.1)	245.4(21.9)
DOCUMENT			199.9(11.2)	222.4(6.3)	255.8(2.4)	295.0(4.8)	274.2(18.0)
QUANTITATIVE COMPUTATION			204.0(16.0)	225.0(4.3)	260.4(2.3)	296.0(6.1)	293.7(97.6)
HISPANIC	391	1,264,984(12%)	4.9(1.4)	19.4(2.3)	50.4(3.9)	25.2(4.2)	0.1(0.2)
NAEP READING PROFICIENCY			236.8(24.3)	255.7(5.7)	285.6(6.4)	322.5(8.9)	213.3(****)
PROSE COMPREHENSION			213.3(9.5)	247.4(5.7)	286.7(5.2)	326.8(7.2)	227.9(****)
DOCUMENT			219.8(22.8)	238.5(3.1)	278.5(4.6)	321.7(7.9)	249.6(****)
QUANTITATIVE COMPUTATION			223.7(20.3)	245.9(4.2)	280.5(4.2)	317.6(8.5)	269.7(****)
OTHER	129	744,179(20%)	0.4(0.3)	12.3(4.7)	39.6(5.6)	47.6(7.4)	0.0(0.0)
NAEP READING PROFICIENCY			213.7(27.1)	269.4(40.5)	288.4(12.6)	316.3(10.6)	*****(0.0)
PROSE COMPREHENSION			255.5(14.1)	270.9(31.7)	288.0(11.6)	327.4(6.8)	*****(0.0)
DOCUMENT			230.3(10.7)	251.8(18.2)	291.2(9.0)	316.5(7.6)	*****(0.0)
QUANTITATIVE COMPUTATION			199.3(34.1)	287.2(12.8)	297.1(7.4)	320.2(5.8)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

INDIVIDUAL'S EDUCATION

	N	WEIGHTED N	0-8 YRS	<HS GRAD	POST HS	COL DEG	NON RESP
ENGLISH SAMPLE (CONTINUED)							
REGION							
NORTHEAST	679	4,448,158(10%)	1.4(0.6)	9.3(1.7)	44.4(3.4)	45.0(3.6)	0.0(0.0)
NAEP READING PROFICIENCY			216.5(21.2)	255.4(8.0)	299.2(3.0)	336.5(5.4)	*****(0.0)
PROSE COMPREHENSION			236.0(15.0)	253.7(7.3)	296.2(5.0)	339.8(2.9)	*****(0.0)
DOCUMENT			205.9(16.0)	261.0(8.0)	294.2(2.8)	337.0(2.9)	*****(0.0)
QUANTITATIVE COMPUTATION			241.1(14.3)	252.4(9.1)	294.8(3.9)	336.9(5.2)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	2.8(0.7)	17.2(2.5)	51.9(2.8)	28.1(4.0)	0.0(0.0)
NAEP READING PROFICIENCY			234.3(13.0)	255.5(7.4)	287.2(3.5)	327.7(5.9)	*****(0.0)
PROSE COMPREHENSION			219.7(9.6)	252.2(7.6)	284.1(5.2)	330.7(4.0)	*****(0.0)
DOCUMENT			220.7(12.0)	245.4(7.9)	287.5(2.4)	333.9(4.0)	*****(0.0)
QUANTITATIVE COMPUTATION			236.6(14.7)	251.9(6.0)	284.7(3.6)	330.6(5.4)	*****(0.0)
CENTRAL	800	5,364,920(12%)	1.9(1.2)	12.7(1.6)	49.2(3.0)	36.3(4.0)	0.0(0.0)
NAEP READING PROFICIENCY			250.0(26.3)	263.7(4.4)	298.5(3.5)	337.8(4.3)	216.5(****)
PROSE COMPREHENSION			266.8(38.8)	268.9(10.1)	299.8(2.7)	338.6(3.9)	253.9(****)
DOCUMENT			240.2(45.1)	259.2(4.4)	298.9(2.7)	345.6(4.7)	252.3(****)
QUANTITATIVE COMPUTATION			242.8(41.6)	266.8(5.7)	303.3(3.5)	342.2(4.4)	215.9(****)
WEST	1098	5,766,608(12%)	1.2(0.4)	13.8(2.1)	47.2(5.1)	37.7(5.4)	0.2(0.1)
NAEP READING PROFICIENCY			229.1(10.7)	273.6(6.1)	300.9(3.4)	338.1(4.8)	266.5(64.9)
PROSE COMPREHENSION			232.5(10.8)	274.5(6.9)	301.2(5.1)	336.4(3.7)	240.7(36.8)
DOCUMENT			230.6(10.3)	263.7(6.0)	301.0(5.4)	339.5(3.0)	271.9(30.7)
QUANTITATIVE COMPUTATION			213.6(15.6)	271.2(5.0)	300.0(3.7)	335.8(4.2)	298.8(16.1)
EDUCATION LEVEL							
LESS THAN HIGH SCHOOL	77	374,926(22%)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			234.7(8.3)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			237.4(11.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			225.3(11.9)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			234.9(10.4)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	262.7(3.5)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	262.9(4.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	256.3(3.9)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	261.2(3.5)	*****(0.0)	*****(0.0)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

INDIVIDUAL'S EDUCATION

	N	WEIGHTED N	0-8 YRS	<HS GRAD	POST HS	COL DEG	NON RESP
ENGLISH SAMPLE (CONTINUED)							
EDUCATION LEVEL (CONTINUED)							
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	296.3(1.7)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	295.3(2.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	295.5(1.9)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	295.8(2.2)	*****(0.0)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	335.6(2.8)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	336.8(1.9)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	339.4(1.9)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	336.8(2.3)	*****(0.0)
PARENTAL EDUCATION							
0 - 8 YEARS	357	1,424,884(11%)	4.6(1.1)	22.7(4.0)	59.6(4.1)	13.0(2.8)	0.0(0.0)
NAEP READING PROFICIENCY			236.8(16.2)	252.4(11.8)	281.4(5.2)	296.9(15.0)	*****(0.0)
PROSE COMPREHENSION			211.2(8.7)	244.5(10.2)	273.5(5.3)	304.3(10.0)	*****(0.0)
DOCUMENT			204.6(7.7)	235.1(8.9)	275.9(6.4)	304.6(16.2)	*****(0.0)
QUANTITATIVE COMPUTATION			223.7(12.2)	242.6(7.6)	274.8(5.5)	292.8(13.0)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	5.1(2.3)	31.8(3.2)	54.9(3.7)	8.1(1.9)	0.1(0.1)
NAEP READING PROFICIENCY			234.0(21.7)	258.2(4.1)	280.5(5.2)	295.7(12.7)	213.3(****)
PROSE COMPREHENSION			261.4(21.8)	258.3(8.3)	276.5(5.5)	310.0(8.1)	227.9(****)
DOCUMENT			243.8(33.7)	252.6(4.8)	280.4(4.0)	328.2(12.6)	249.6(****)
QUANTITATIVE COMPUTATION			243.4(20.9)	257.8(7.6)	284.8(4.0)	324.6(12.6)	269.7(****)
GRADUATED H.S.	1537	9,736,634(6%)	1.2(0.4)	12.2(1.2)	57.2(1.9)	29.4(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			238.9(8.7)	268.1(4.4)	300.3(1.7)	332.1(3.5)	*****(0.0)
PROSE COMPREHENSION			238.6(12.6)	271.4(4.7)	298.7(2.7)	331.9(3.3)	*****(0.0)
DOCUMENT			215.9(14.8)	263.7(4.5)	299.4(2.3)	333.8(3.2)	*****(0.0)
QUANTITATIVE COMPUTATION			240.8(9.2)	267.8(3.9)	297.5(2.2)	330.8(3.6)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	0.6(0.3)	3.9(0.8)	31.5(2.8)	64.0(3.0)	0.1(0.1)
NAEP READING PROFICIENCY			240.0(23.7)	281.7(11.0)	304.2(4.4)	341.6(3.5)	271.5(28.6)
PROSE COMPREHENSION			231.5(12.7)	286.6(11.5)	308.7(3.4)	342.8(2.5)	245.4(21.9)
DOCUMENT			250.3(13.3)	280.0(9.2)	304.7(4.8)	345.2(2.4)	274.2(18.0)
QUANTITATIVE COMPUTATION			232.1(42.5)	273.1(12.7)	308.9(5.1)	343.3(2.7)	293.7(97.6)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

INDIVIDUAL'S EDUCATION

	N	WEIGHTED N	0-8 YRS	<HS GRAD	POST HS	COL DEG	NON RESP
ENGLISH SAMPLE (CONTINUED)							
EMPLOYMENT STATUS							
FULL-TIME ALL YEAR	1474	9,571,878(6%)	1.2(0.4)	11.7(1.3)	58.0(2.0)	29.1(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			241.7(13.6)	270.0(6.8)	296.7(2.3)	331.0(4.6)	*****(0.0)
PROSE COMPREHENSION			229.9(12.6)	268.9(7.7)	296.2(2.9)	334.4(4.3)	*****(0.0)
DOCUMENT			224.9(19.6)	256.8(5.9)	296.2(2.1)	336.6(3.3)	*****(0.0)
QUANTITATIVE COMPUTATION			245.2(11.0)	263.3(6.7)	295.8(2.4)	331.2(4.3)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	0.3(0.2)	3.6(0.7)	35.2(3.8)	60.9(4.0)	0.0(0.0)
NAEP READING PROFICIENCY			238.3(19.8)	281.1(13.0)	298.9(4.0)	336.7(5.0)	*****(0.0)
PROSE COMPREHENSION			196.8(12.0)	272.5(12.1)	297.3(5.9)	337.9(3.4)	*****(0.0)
DOCUMENT			227.0(14.4)	265.9(11.2)	297.0(5.8)	345.7(4.0)	*****(0.0)
QUANTITATIVE COMPUTATION			224.7(24.5)	270.8(11.0)	301.1(6.2)	339.2(4.0)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	1.6(0.6)	17.1(2.2)	41.5(2.9)	39.6(2.9)	0.2(0.2)
NAEP READING PROFICIENCY			221.3(19.3)	262.9(6.7)	297.9(3.7)	345.0(5.7)	271.5(28.6)
PROSE COMPREHENSION			231.6(15.5)	265.1(7.6)	296.1(4.7)	341.1(5.2)	245.4(21.9)
DOCUMENT			224.9(13.4)	265.1(7.7)	301.7(4.7)	341.3(3.7)	274.2(18.0)
QUANTITATIVE COMPUTATION			220.1(16.1)	271.3(5.0)	297.5(4.8)	343.0(3.8)	293.7(97.6)
EMPLOYMENT STATUS (CONTINUED)							
PART-TIME PART OF YEAR	275	1,761,586(11%)	4.0(2.5)	11.1(2.2)	33.0(4.8)	51.9(5.6)	0.0(0.0)
NAEP READING PROFICIENCY			241.4(31.3)	252.3(9.1)	297.0(7.0)	340.1(5.1)	*****(0.0)
PROSE COMPREHENSION			286.0(45.8)	256.8(14.2)	292.2(5.5)	341.6(6.2)	*****(0.0)
DOCUMENT			260.7(30.5)	252.3(8.4)	293.1(8.3)	339.5(5.2)	*****(0.0)
QUANTITATIVE COMPUTATION			255.8(25.0)	252.1(9.0)	295.1(7.7)	338.8(6.2)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	8.0(3.2)	37.7(8.1)	48.1(6.9)	6.2(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			198.7(16.4)	248.0(7.8)	271.8(7.9)	326.1(23.3)	*****(0.0)
PROSE COMPREHENSION			194.5(26.6)	241.1(10.4)	269.9(15.8)	312.4(15.7)	*****(0.0)
DOCUMENT			178.2(11.0)	235.9(10.6)	255.6(7.7)	314.1(25.7)	*****(0.0)
QUANTITATIVE COMPUTATION			202.9(17.8)	247.9(10.5)	268.4(10.1)	316.4(23.3)	*****(0.0)
IN SCHOOL	161	851,851(20%)	0.0(0.0)	4.1(1.5)	30.9(6.3)	65.0(6.4)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	260.9(10.4)	290.1(15.1)	327.9(7.9)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	254.0(27.5)	290.8(11.7)	328.2(7.6)	*****(0.0)
DOCUMENT			*****(0.0)	250.1(17.6)	287.3(10.7)	330.4(7.4)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	227.0(17.6)	297.5(9.0)	337.4(9.3)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	6.1(1.7)	33.3(3.4)	54.7(2.6)	5.9(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			244.0(13.1)	251.0(6.6)	293.5(5.6)	312.4(11.3)	*****(0.0)
PROSE COMPREHENSION			235.2(10.8)	255.5(7.1)	293.8(5.0)	327.6(10.5)	*****(0.0)
DOCUMENT			216.5(12.5)	251.0(7.3)	290.3(5.2)	340.5(9.7)	*****(0.0)
QUANTITATIVE COMPUTATION			230.9(14.0)	252.8(6.1)	290.9(6.3)	340.0(23.9)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

INDIVIDUAL'S EDUCATION

	N	WEIGHTED N	0-8 YRS	<HS GRAD	POST HS	COL DEG	NON RESP
SPANISH SAMPLE	80	213,081(31%)	37.2(4.5)	30.6(4.9)	21.8(4.1)	10.4(5.3)	0.0(0.0)
NAEP READING PROFICIENCY			135.6(10.1)	162.8(15.5)	181.4(11.9)	211.4(24.3)	*****(0.0)
PROSE COMPREHENSION			126.5(12.8)	161.2(18.7)	179.8(15.5)	206.9(25.0)	*****(0.0)
DOCUMENT			103.9(13.4)	132.0(12.1)	168.1(14.5)	207.8(23.9)	*****(0.0)
QUANTITATIVE COMPUTATION			118.4(12.8)	157.6(17.6)	178.3(13.4)	209.2(25.3)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	13.1(4.5)	39.9(9.4)	38.2(9.1)	8.1(4.4)	0.6(0.7)
NAEP READING PROFICIENCY			145.9(24.9)	166.4(17.9)	169.8(25.5)	216.2(23.0)	122.2(****)
PROSE COMPREHENSION			141.6(17.3)	163.4(17.4)	159.4(15.3)	223.1(63.9)	79.7(55.9)
DOCUMENT			130.7(20.6)	142.8(14.6)	143.3(16.5)	212.2(26.8)	47.3(95.4)
QUANTITATIVE COMPUTATION			143.1(26.4)	153.5(17.4)	144.8(25.4)	231.3(26.1)	78.5(78.6)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

MOTHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE						
-- TOTAL --	3474	20,720,464(5%)	25.2(1.5)	41.4(1.6)	29.8(1.7)	3.6(0.4)
NAEP READING PROFICIENCY			282.4(2.6)	308.1(1.9)	326.1(3.3)	253.1(5.8)
PROSE COMPREHENSION			278.6(2.7)	309.4(2.3)	327.5(2.3)	252.5(6.7)
DOCUMENT			278.5(2.3)	308.3(2.4)	329.2(2.8)	252.5(5.3)
QUANTITATIVE COMPUTATION			280.9(2.5)	307.2(2.5)	328.4(3.0)	255.2(6.1)
SEX						
MALE	1544	10,054,793(6%)	22.7(2.0)	43.3(2.2)	29.9(1.9)	4.1(0.6)
NAEP READING PROFICIENCY			281.4(3.8)	306.0(3.0)	327.0(3.3)	253.3(9.6)
PROSE COMPREHENSION			278.5(4.8)	309.0(3.9)	328.0(3.2)	255.5(10.2)
DOCUMENT			278.5(3.4)	307.6(3.6)	329.4(3.7)	253.0(8.1)
QUANTITATIVE COMPUTATION			279.1(4.1)	305.0(3.9)	330.8(3.7)	256.8(7.7)
FEMALE	1930	10,665,671(6%)	27.6(1.5)	39.6(1.8)	29.7(2.0)	3.1(0.4)
NAEP READING PROFICIENCY			283.2(3.2)	310.2(2.2)	325.2(4.5)	252.9(5.0)
PROSE COMPREHENSION			278.7(2.5)	309.8(2.3)	327.1(3.2)	248.7(8.1)
DOCUMENT			278.5(3.0)	309.0(2.3)	329.0(3.4)	251.8(5.7)
QUANTITATIVE COMPUTATION			282.2(2.7)	309.4(2.6)	326.1(3.8)	253.3(7.8)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	20.4(1.4)	45.1(1.9)	32.1(2.0)	2.5(0.4)
NAEP READING PROFICIENCY			291.9(3.7)	313.6(2.2)	331.5(3.0)	266.0(8.5)
PROSE COMPREHENSION			287.8(3.5)	316.4(2.5)	332.0(2.0)	270.1(10.1)
DOCUMENT			290.1(2.6)	315.4(2.6)	335.7(2.7)	273.4(8.3)
QUANTITATIVE COMPUTATION			292.2(3.2)	313.2(2.9)	334.3(3.0)	270.1(8.5)
BLACK	957	2,693,192(8%)	40.1(2.2)	32.4(1.9)	19.0(1.6)	8.6(1.1)
NAEP READING PROFICIENCY			251.9(2.9)	271.9(5.2)	286.6(4.7)	232.7(6.7)
PROSE COMPREHENSION			248.4(2.6)	261.1(4.4)	285.9(5.3)	233.2(6.4)
DOCUMENT			244.7(4.0)	262.6(4.2)	280.6(4.3)	225.5(6.4)
QUANTITATIVE COMPUTATION			248.3(3.6)	267.1(3.5)	282.1(6.1)	229.0(7.5)
HISPANIC	391	1,264,984(12%)	47.5(5.3)	25.9(3.4)	21.0(4.3)	5.7(1.0)
NAEP READING PROFICIENCY			278.2(5.9)	290.2(6.0)	311.5(8.3)	248.6(8.3)
PROSE COMPREHENSION			269.9(5.7)	292.8(4.4)	325.5(10.2)	235.1(9.9)
DOCUMENT			265.2(5.6)	284.5(5.6)	312.1(10.3)	242.9(9.9)
QUANTITATIVE COMPUTATION			265.9(5.1)	289.8(7.1)	311.2(12.1)	243.7(8.9)
OTHER	129	744,179(20%)	37.7(9.3)	21.6(5.0)	35.5(7.9)	5.2(3.2)
NAEP READING PROFICIENCY			298.3(13.2)	290.5(13.7)	311.8(16.8)	252.0(68.6)
PROSE COMPREHENSION			306.5(11.6)	291.0(10.4)	323.0(11.7)	219.1(43.6)
DOCUMENT			301.3(9.6)	287.3(10.1)	313.3(12.2)	217.1(24.7)
QUANTITATIVE COMPUTATION			306.1(7.1)	289.6(12.2)	320.6(14.6)	281.7(17.2)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

MOTHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	16.1(2.2)	49.3(3.0)	31.1(2.8)	3.4(0.8)
NAEP READING PROFICIENCY			278.6(6.9)	313.0(4.3)	331.3(6.4)	243.6(16.9)
PROSE COMPREHENSION			276.5(7.0)	312.6(4.6)	332.8(4.5)	254.8(16.4)
DOCUMENT			276.7(4.4)	311.3(4.5)	329.1(4.7)	251.6(13.5)
QUANTITATIVE COMPUTATION			277.6(6.4)	308.9(4.6)	332.3(7.1)	248.7(11.3)
SOUTHEAST	897	5,140,778(17%)	38.7(2.1)	33.5(2.3)	22.8(2.2)	5.0(1.0)
NAEP READING PROFICIENCY			275.7(4.8)	298.0(2.7)	317.6(5.7)	254.2(10.7)
PROSE COMPREHENSION			270.6(6.1)	300.1(6.4)	317.3(5.8)	245.7(11.9)
DOCUMENT			271.2(4.7)	300.3(4.7)	321.3(5.8)	253.1(7.6)
QUANTITATIVE COMPUTATION			273.6(5.0)	297.8(5.9)	319.1(4.9)	244.5(8.8)
CENTRAL	800	5,364,920(12%)	23.9(2.9)	45.5(3.1)	27.5(3.5)	3.1(0.8)
NAEP READING PROFICIENCY			290.4(4.8)	311.6(4.2)	321.5(4.4)	251.7(7.6)
PROSE COMPREHENSION			285.9(5.7)	314.4(4.8)	326.2(4.4)	264.8(14.6)
DOCUMENT			286.0(5.1)	314.3(4.1)	329.5(6.4)	250.6(9.2)
QUANTITATIVE COMPUTATION			289.6(4.4)	315.5(4.8)	329.6(6.3)	266.0(12.9)
WEST	1098	5,766,608(12%)	21.5(2.5)	38.5(2.8)	37.2(3.9)	2.8(0.5)
NAEP READING PROFICIENCY			287.1(7.1)	307.1(3.6)	330.5(6.2)	262.0(15.1)
PROSE COMPREHENSION			285.1(4.8)	308.0(4.5)	330.6(3.7)	248.7(12.2)
DOCUMENT			283.6(5.2)	305.0(5.9)	333.3(4.4)	254.4(12.5)
QUANTITATIVE COMPUTATION			285.2(5.8)	303.7(4.4)	330.1(4.5)	267.9(8.5)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	45.2(9.4)	26.7(7.4)	11.5(5.0)	16.6(6.5)
NAEP READING PROFICIENCY			242.1(11.7)	240.8(10.4)	233.5(24.1)	205.8(14.2)
PROSE COMPREHENSION			246.1(19.3)	244.4(14.1)	228.4(11.4)	208.6(18.9)
DOCUMENT			236.3(26.0)	209.8(15.6)	248.4(13.6)	204.4(11.6)
QUANTITATIVE COMPUTATION			241.1(16.4)	243.1(10.5)	229.5(39.0)	208.5(19.1)
SOME HIGH SCHOOL	618	2,769,840(6%)	47.6(2.7)	32.8(3.0)	7.4(1.7)	12.1(1.9)
NAEP READING PROFICIENCY			257.8(4.7)	270.0(5.3)	286.9(9.5)	247.2(7.4)
PROSE COMPREHENSION			256.9(5.0)	275.0(6.1)	291.8(12.2)	236.0(8.8)
DOCUMENT			249.4(5.2)	268.1(5.7)	283.2(10.0)	235.5(7.5)
QUANTITATIVE COMPUTATION			253.7(4.9)	272.4(5.3)	280.7(11.5)	248.3(8.5)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

MOTHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EDUCATION LEVEL (CONTINUED)						
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	30.0(1.8)	47.1(1.7)	19.8(1.4)	3.1(0.5)
NAEP READING PROFICIENCY			288.2(3.4)	299.9(2.0)	304.8(4.1)	264.8(9.5)
PROSE COMPREHENSION			280.4(3.2)	300.7(2.5)	307.6(4.6)	276.9(9.1)
DOCUMENT			283.8(2.7)	300.2(2.6)	305.5(3.5)	274.7(6.7)
QUANTITATIVE COMPUTATION			285.8(2.8)	299.2(2.9)	307.5(4.5)	266.0(9.1)
COLLEGE DEGREE	1058	7,565,453(9%)	9.7(1.5)	37.8(2.7)	52.1(2.8)	0.4(0.2)
NAEP READING PROFICIENCY			312.3(8.9)	336.0(3.5)	339.9(3.6)	299.1(33.0)
PROSE COMPREHENSION			317.8(5.8)	336.9(3.5)	340.6(2.4)	277.5(35.2)
DOCUMENT			318.9(6.5)	337.9(3.0)	344.4(2.9)	316.2(20.4)
QUANTITATIVE COMPUTATION			318.6(5.5)	333.7(3.6)	342.5(3.1)	321.9(29.2)
PARENTAL EDUCATION						
0 - 8 YEARS	357	1,424,884(11%)	94.2(1.4)	0.0(0.0)	0.0(0.0)	5.8(1.4)
NAEP READING PROFICIENCY			276.0(5.5)	*****(0.0)	*****(0.0)	255.1(8.3)
PROSE COMPREHENSION			269.1(6.0)	*****(0.0)	*****(0.0)	251.1(16.9)
DOCUMENT			267.1(6.0)	*****(0.0)	*****(0.0)	267.9(12.5)
QUANTITATIVE COMPUTATION			269.2(5.0)	*****(0.0)	*****(0.0)	240.3(19.6)
SOME H.S.	489	2,400,960(9%)	96.2(1.3)	0.0(0.0)	0.0(0.0)	3.8(1.3)
NAEP READING PROFICIENCY			273.1(3.1)	*****(0.0)	*****(0.0)	248.6(17.8)
PROSE COMPREHENSION			274.0(3.7)	*****(0.0)	*****(0.0)	239.3(16.5)
DOCUMENT			275.0(2.4)	*****(0.0)	*****(0.0)	235.5(11.4)
QUANTITATIVE COMPUTATION			278.8(4.1)	*****(0.0)	*****(0.0)	240.3(13.2)
GRADUATED H.S.	1537	9,736,634(6%)	13.4(1.2)	72.7(2.0)	12.8(1.3)	1.1(0.3)
NAEP READING PROFICIENCY			301.6(6.5)	304.8(1.6)	312.2(3.6)	269.2(16.5)
PROSE COMPREHENSION			291.4(4.9)	305.2(2.7)	314.8(6.0)	287.6(14.0)
DOCUMENT			291.3(4.0)	303.9(2.3)	321.3(4.5)	275.4(13.9)
QUANTITATIVE COMPUTATION			291.8(5.0)	303.3(2.1)	314.8(5.1)	282.9(13.3)
COLLEGE DEGREE	978	6,737,472(10%)	4.0(0.8)	22.3(1.8)	73.2(1.8)	0.5(0.2)
NAEP READING PROFICIENCY			300.8(14.7)	323.3(6.3)	329.6(3.8)	295.9(18.7)
PROSE COMPREHENSION			303.4(13.8)	329.1(5.8)	330.7(2.2)	299.7(25.6)
DOCUMENT			303.1(15.2)	329.0(6.2)	331.1(3.1)	293.4(16.8)
QUANTITATIVE COMPUTATION			303.7(13.2)	325.6(7.3)	331.8(3.0)	295.8(15.1)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

MOTHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EMPLOYMENT STATUS						
FULL-TIME ALL YEAR	1474	9,571,878(6%)	24.5(2.0)	47.8(2.2)	24.8(1.6)	2.8(0.5)
NAEP READING PROFICIENCY			286.4(4.1)	306.3(2.8)	317.2(3.7)	262.1(8.3)
PROSE COMPREHENSION			279.3(4.4)	308.9(3.8)	321.5(4.4)	258.5(11.2)
DOCUMENT			282.4(3.8)	305.7(3.2)	320.4(3.9)	266.2(9.0)
QUANTITATIVE COMPUTATION			282.9(4.0)	305.0(3.5)	318.6(4.7)	261.2(9.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	18.1(2.9)	34.4(3.1)	45.7(4.1)	1.8(0.7)
NAEP READING PROFICIENCY			290.9(8.0)	315.9(4.4)	339.2(5.0)	259.8(31.5)
PROSE COMPREHENSION			288.8(8.4)	317.0(6.6)	337.9(3.9)	279.1(20.5)
DOCUMENT			286.6(6.5)	319.4(4.7)	347.4(4.1)	263.5(20.2)
QUANTITATIVE COMPUTATION			291.8(6.6)	319.5(5.0)	340.4(4.2)	258.6(28.6)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	23.4(1.9)	41.0(3.0)	30.1(2.5)	5.5(1.4)
NAEP READING PROFICIENCY			284.2(6.1)	314.4(5.7)	333.3(5.6)	246.1(11.3)
PROSE COMPREHENSION			279.1(5.6)	313.4(5.7)	331.8(4.8)	251.4(13.3)
DOCUMENT			282.6(5.1)	315.1(5.0)	335.2(5.2)	247.7(8.6)
QUANTITATIVE COMPUTATION			280.0(6.2)	313.0(6.0)	336.4(5.3)	266.9(10.0)
EMPLOYMENT STATUS (CONTINUED)						
PART-TIME PART OF YEAR	275	1,761,586(11%)	22.2(3.9)	34.8(4.8)	40.4(5.2)	2.7(0.8)
NAEP READING PROFICIENCY			284.3(11.7)	308.7(10.4)	334.7(7.4)	249.7(15.7)
PROSE COMPREHENSION			287.5(6.6)	313.0(10.5)	333.7(8.0)	239.7(13.9)
DOCUMENT			277.9(10.0)	317.9(7.5)	329.6(5.8)	230.8(17.0)
QUANTITATIVE COMPUTATION			282.3(10.5)	309.9(7.9)	334.0(5.2)	233.4(13.3)
UNEMPLOYED	117	402,744(14%)	61.0(6.4)	23.4(5.6)	6.8(2.8)	8.8(2.4)
NAEP READING PROFICIENCY			256.6(8.4)	271.9(13.8)	292.9(32.8)	230.1(16.6)
PROSE COMPREHENSION			252.9(12.3)	265.3(19.3)	277.0(30.1)	232.5(14.1)
DOCUMENT			244.8(7.4)	250.2(12.0)	292.6(27.6)	201.6(16.8)
QUANTITATIVE COMPUTATION			261.6(9.0)	262.2(16.4)	277.3(38.3)	210.1(19.7)
IN SCHOOL	161	851,851(20%)	27.6(5.5)	25.6(4.4)	42.4(5.4)	4.4(1.7)
NAEP READING PROFICIENCY			297.7(18.7)	313.9(10.4)	326.7(10.5)	281.8(16.6)
PROSE COMPREHENSION			296.5(12.6)	316.7(10.4)	327.8(9.2)	266.1(36.8)
DOCUMENT			298.8(11.5)	315.6(11.1)	326.8(8.4)	272.3(25.8)
QUANTITATIVE COMPUTATION			307.4(9.6)	317.8(10.9)	336.3(10.6)	266.5(15.4)
KEEPING HOUSE	301	1,432,789(10%)	42.2(3.8)	36.2(3.7)	16.7(3.4)	4.9(1.2)
NAEP READING PROFICIENCY			261.2(6.1)	294.8(4.8)	292.0(13.0)	239.9(12.5)
PROSE COMPREHENSION			265.4(7.2)	289.7(5.3)	308.8(13.7)	226.5(18.2)
DOCUMENT			258.8(5.8)	286.8(8.5)	306.6(12.9)	233.9(19.9)
QUANTITATIVE COMPUTATION			262.6(6.3)	287.5(8.7)	307.6(14.8)	229.3(11.7)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

MOTHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
SPANISH SAMPLE	80	213,081(31%)	74.8(5.4)	5.5(2.0)	8.2(3.1)	11.4(6.6)
NAEP READING PROFICIENCY			155.4(7.7)	200.9(35.4)	181.8(29.8)	170.4(29.5)
PROSE COMPREHENSION			150.2(8.0)	182.4(21.6)	189.0(20.2)	166.9(38.1)
DOCUMENT			126.9(8.5)	177.2(25.7)	184.2(46.0)	152.5(22.3)
QUANTITATIVE COMPUTATION			143.5(8.3)	195.1(27.9)	200.8(23.0)	159.9(27.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	40.8(10.3)	39.4(10.3)	3.3(1.9)	16.5(4.8)
NAEP READING PROFICIENCY			169.6(14.9)	173.9(29.3)	206.2(21.9)	147.2(14.7)
PROSE COMPREHENSION			169.6(19.1)	163.9(15.0)	179.2(14.8)	143.2(17.4)
DOCUMENT			159.5(15.5)	141.3(18.8)	182.1(27.7)	119.4(12.2)
QUANTITATIVE COMPUTATION			161.7(19.7)	152.8(30.3)	186.0(28.8)	135.3(11.4)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

FATHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE						
-- TOTAL --	3474	20,720,464(5%)	27.7(1.5)	31.3(1.5)	33.6(1.9)	7.4(0.6)
NAEP READING PROFICIENCY			285.1(2.0)	306.5(2.1)	328.3(3.3)	267.2(3.4)
PROSE COMPREHENSION			284.5(2.8)	306.8(2.1)	328.9(2.6)	265.8(6.0)
DOCUMENT			284.9(2.4)	305.7(2.3)	329.6(2.6)	265.4(4.1)
QUANTITATIVE COMPUTATION			285.5(2.6)	304.0(2.3)	329.7(3.2)	269.8(4.3)
SEX						
MALE	1544	10,054,793(6%)	26.8(2.1)	32.0(1.9)	35.5(2.1)	5.7(0.7)
NAEP READING PROFICIENCY			283.5(4.3)	304.7(3.5)	327.1(4.1)	262.0(6.4)
PROSE COMPREHENSION			282.5(4.5)	308.4(3.6)	328.3(3.8)	256.9(9.5)
DOCUMENT			283.5(4.5)	305.8(4.0)	328.5(3.6)	260.1(7.4)
QUANTITATIVE COMPUTATION			281.6(4.0)	302.9(3.7)	330.6(4.8)	265.4(7.7)
FEMALE	1930	10,665,671(6%)	28.6(1.5)	30.6(1.7)	31.9(2.2)	8.9(0.7)
NAEP READING PROFICIENCY			286.6(3.2)	308.2(2.6)	329.6(4.2)	270.4(4.5)
PROSE COMPREHENSION			286.2(2.7)	305.2(3.4)	329.4(2.9)	271.2(5.9)
DOCUMENT			286.1(2.5)	305.6(3.0)	330.8(2.5)	268.6(4.5)
QUANTITATIVE COMPUTATION			289.0(2.7)	305.2(3.3)	328.8(3.6)	272.4(4.6)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	24.7(1.8)	33.1(1.9)	37.8(2.0)	4.4(0.6)
NAEP READING PROFICIENCY			293.8(2.5)	312.6(2.4)	331.9(3.3)	278.9(5.9)
PROSE COMPREHENSION			294.0(3.5)	313.8(2.5)	331.7(2.5)	285.8(9.0)
DOCUMENT			296.6(2.7)	313.2(2.7)	334.2(2.5)	283.7(5.1)
QUANTITATIVE COMPUTATION			295.9(3.1)	310.4(2.8)	333.5(3.4)	289.8(5.4)
BLACK	957	2,693,192(8%)	37.7(2.5)	26.9(2.0)	14.5(1.7)	20.9(1.6)
NAEP READING PROFICIENCY			254.2(2.6)	269.8(5.0)	292.6(4.5)	251.1(3.1)
PROSE COMPREHENSION			251.7(3.9)	261.8(4.6)	295.9(6.1)	239.7(5.6)
DOCUMENT			248.0(4.0)	261.6(3.8)	285.1(4.7)	241.7(4.6)
QUANTITATIVE COMPUTATION			251.8(3.2)	263.8(4.3)	288.2(6.8)	246.2(5.1)
HISPANIC	391	1,264,984(12%)	42.2(4.8)	21.4(3.6)	21.5(3.7)	14.9(3.7)
NAEP READING PROFICIENCY			276.9(5.2)	285.7(7.2)	319.4(7.2)	268.1(12.6)
PROSE COMPREHENSION			269.2(5.2)	286.9(6.5)	323.4(10.5)	274.6(13.0)
DOCUMENT			266.0(5.6)	276.5(8.0)	310.4(9.2)	272.1(16.1)
QUANTITATIVE COMPUTATION			267.2(4.8)	279.8(8.0)	319.5(9.1)	261.7(10.7)
OTHER	129	744,179(20%)	30.6(6.7)	26.2(5.3)	34.0(6.8)	9.3(4.3)
NAEP READING PROFICIENCY			292.2(11.4)	305.5(13.9)	306.1(15.8)	277.6(34.9)
PROSE COMPREHENSION			299.4(11.9)	312.4(12.6)	317.9(13.4)	249.9(18.8)
DOCUMENT			290.2(13.8)	308.4(8.9)	309.6(12.5)	253.5(17.7)
QUANTITATIVE COMPUTATION			298.7(6.4)	314.6(13.0)	314.6(11.2)	279.1(16.8)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

FATHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	19.4(2.4)	37.4(3.1)	36.8(3.1)	6.4(1.0)
NAEP READING PROFICIENCY			287.5(5.9)	309.3(4.6)	334.1(5.3)	255.6(11.3)
PROSE COMPREHENSION			288.5(5.7)	309.0(5.1)	334.4(5.0)	256.8(12.2)
DOCUMENT			292.0(4.3)	307.6(4.3)	328.1(3.7)	262.1(9.1)
QUANTITATIVE COMPUTATION			287.0(7.7)	304.4(3.9)	333.3(7.1)	263.5(7.8)
SOUTHEAST	897	5,140,778(17%)	37.6(2.6)	27.9(2.4)	24.7(2.2)	9.9(1.0)
NAEP READING PROFICIENCY			271.0(3.9)	302.9(4.1)	320.2(5.9)	267.4(5.4)
PROSE COMPREHENSION			270.7(6.8)	297.4(6.9)	322.1(5.5)	260.9(12.7)
DOCUMENT			269.4(4.3)	302.7(4.1)	323.3(5.9)	263.7(7.2)
QUANTITATIVE COMPUTATION			271.8(3.9)	299.1(4.1)	318.1(6.4)	269.7(6.9)
CENTRAL	800	5,364,920(12%)	28.0(3.5)	34.4(3.0)	32.2(3.4)	5.5(1.4)
NAEP READING PROFICIENCY			294.8(3.5)	305.4(4.4)	327.7(6.7)	265.2(7.6)
PROSE COMPREHENSION			293.8(4.4)	311.1(4.1)	327.8(5.6)	268.4(12.3)
DOCUMENT			293.3(3.4)	307.6(4.1)	334.0(4.9)	264.1(9.2)
QUANTITATIVE COMPUTATION			297.0(5.5)	310.4(4.7)	333.8(6.1)	264.3(10.0)
WEST	1098	5,766,608(12%)	25.0(3.4)	26.9(2.3)	40.5(4.8)	7.7(1.3)
NAEP READING PROFICIENCY			292.7(4.2)	308.1(4.7)	329.1(6.3)	275.8(7.2)
PROSE COMPREHENSION			290.7(5.2)	308.0(4.0)	329.4(4.1)	275.6(8.3)
DOCUMENT			292.6(6.4)	304.2(5.8)	330.9(5.2)	270.5(7.2)
QUANTITATIVE COMPUTATION			291.0(4.7)	300.6(5.8)	330.6(4.8)	277.6(7.6)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	70.3(8.7)	12.4(4.8)	1.6(1.0)	15.6(6.0)
NAEP READING PROFICIENCY			238.7(11.2)	225.2(13.9)	252.9(27.0)	222.6(13.1)
PROSE COMPREHENSION			241.6(13.7)	225.4(16.1)	257.0(17.6)	225.9(16.6)
DOCUMENT			227.3(16.6)	225.8(22.4)	270.0(30.7)	211.2(11.0)
QUANTITATIVE COMPUTATION			239.3(13.1)	238.1(22.8)	240.8(33.8)	212.1(14.1)
SOME HIGH SCHOOL	618	2,769,840(6%)	44.3(3.6)	25.5(2.3)	10.2(1.5)	20.0(2.5)
NAEP READING PROFICIENCY			262.6(5.6)	265.6(5.2)	281.6(11.2)	249.6(6.7)
PROSE COMPREHENSION			262.5(6.7)	271.0(6.6)	280.1(10.3)	244.7(8.4)
DOCUMENT			254.7(4.9)	262.9(7.1)	276.8(9.0)	241.3(6.3)
QUANTITATIVE COMPUTATION			257.9(5.7)	266.9(5.1)	271.1(11.1)	256.0(7.8)

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  FATHER'S EDUCATION

                                 N     WEIGHTED N        <HS GRAD      HS GRAD       POST HS       NON RESP

ENGLISH SAMPLE (CONTINUED)
EDUCATION LEVEL (CONTINUED)
  GRADUATED HIGH SCHOOL       1718    9,999,954( 7%)    33.4( 1.9)    35.9( 1.7)    23.1( 1.5)     7.6( 0.8)

    NAEP READING PROFICIENCY                           288.3( 3.1)   302.3( 2.8)   305.7( 4.3)   273.8( 4.3)
    PROSE COMPREHENSION                                285.6( 3.2)   299.1( 2.7)   309.0( 3.6)   277.5( 8.1)
    DOCUMENT                                           288.7( 3.2)   299.2( 2.6)   305.4( 4.2)   278.3( 5.2)
    QUANTITATIVE COMPUTATION                           288.5( 3.2)   298.0( 3.2)   308.1( 4.9)   279.9( 6.6)

  COLLEGE DEGREE              1058    7,565,453( 9%)    12.0( 1.5)    28.3( 2.5)    57.7( 3.0)     2.0( 0.5)

    NAEP READING PROFICIENCY                           317.7( 6.8)   328.8( 3.7)   343.4( 3.3)   315.5(12.1)
    PROSE COMPREHENSION                                322.4( 6.1)   333.5( 3.6)   342.6( 2.6)   299.3(12.1)
    DOCUMENT                                           328.5( 6.2)   332.7( 3.3)   345.9( 2.4)   309.3(11.1)
    QUANTITATIVE COMPUTATION                           325.3( 5.6)   327.8( 4.6)   345.1( 2.8)   291.8( 9.0)


PARENTAL EDUCATION
  0 - 8 YEARS                  357    1,424,884(11%)    85.6( 2.3)     0.0( 0.0)     0.0( 0.0)    14.4( 2.3)

    NAEP READING PROFICIENCY                           275.3( 5.7)   *****( 0.0)   *****( 0.0)   272.0( 8.7)
    PROSE COMPREHENSION                                268.6( 6.0)   *****( 0.0)   *****( 0.0)   264.9(10.2)
    DOCUMENT                                           266.3( 6.1)   *****( 0.0)   *****( 0.0)   272.0(12.7)
    QUANTITATIVE COMPUTATION                           267.4( 5.3)   *****( 0.0)   *****( 0.0)   267.9( 8.9)

  SOME H.S.                    489    2,400,960( 9%)    83.8( 1.9)     0.0( 0.0)     0.0( 0.0)    16.2( 1.9)

    NAEP READING PROFICIENCY                           274.5( 3.7)   *****( 0.0)   *****( 0.0)   260.4( 7.1)
    PROSE COMPREHENSION                                275.4( 3.9)   *****( 0.0)   *****( 0.0)   258.0( 8.0)
    DOCUMENT                                           276.5( 2.7)   *****( 0.0)   *****( 0.0)   258.0( 6.2)
    QUANTITATIVE COMPUTATION                           278.9( 3.6)   *****( 0.0)   *****( 0.0)   269.1( 9.3)

  GRADUATED H.S.              1537    9,736,634( 6%)    23.3( 1.9)    60.3( 2.3)    12.4( 1.1)     4.1( 0.5)

    NAEP READING PROFICIENCY                           298.1( 3.4)   305.5( 2.2)   322.2( 6.8)   283.6( 7.9)
    PROSE COMPREHENSION                                298.1( 4.0)   305.3( 2.1)   318.4( 5.1)   284.3(11.0)
    DOCUMENT                                           299.6( 3.8)   304.6( 2.5)   317.7( 4.6)   281.9( 8.1)
    QUANTITATIVE COMPUTATION                           299.0( 3.3)   302.1( 2.2)   321.2( 7.4)   284.0(10.6)

  COLLEGE DEGREE               978    6,737,472(10%)     3.6( 0.7)     9.2( 1.2)    85.5( 1.6)     1.7( 0.6)

    NAEP READING PROFICIENCY                           302.6( 9.9)   315.5( 8.7)   329.6( 3.5)   302.6(15.8)
    PROSE COMPREHENSION                                311.1( 8.9)   321.1( 7.1)   331.0( 2.6)   314.0(13.8)
    DOCUMENT                                           310.2( 8.8)   316.4( 6.8)   332.1( 2.8)   300.3(13.7)
    QUANTITATIVE COMPUTATION                           305.6(10.9)   322.1( 7.1)   331.5( 3.3)   294.7(15.0)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

FATHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EMPLOYMENT STATUS						
FULL-TIME ALL YEAR	1474	9,571,878(6%)	29.9(2.0)	35.4(2.0)	28.4(1.8)	6.3(0.7)
NAEP READING PROFICIENCY			287.2(3.7)	306.7(3.4)	320.4(4.9)	276.0(6.3)
PROSE COMPREHENSION			287.0(4.6)	308.2(3.2)	322.8(4.2)	265.4(7.1)
DOCUMENT			287.8(3.6)	306.3(3.2)	320.9(4.0)	267.4(5.7)
QUANTITATIVE COMPUTATION			286.1(3.6)	303.4(3.8)	322.5(5.2)	271.6(5.7)
PART-TIME ALL YEAR	479	2,816,437(12%)	18.0(2.7)	30.8(3.6)	46.2(4.9)	5.0(1.2)
NAEP READING PROFICIENCY			292.1(7.9)	314.6(7.8)	339.6(5.1)	293.5(14.2)
PROSE COMPREHENSION			292.2(8.1)	316.7(5.6)	338.2(3.7)	287.7(21.2)
DOCUMENT			299.0(6.4)	314.9(6.0)	346.5(3.7)	287.3(14.0)
QUANTITATIVE COMPUTATION			304.8(8.3)	313.9(6.7)	339.7(3.8)	289.4(21.6)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	25.4(2.2)	28.4(2.5)	37.0(2.9)	9.2(1.7)
NAEP READING PROFICIENCY			290.6(5.4)	304.5(5.8)	337.9(4.5)	260.1(8.5)
PROSE COMPREHENSION			287.3(6.0)	305.7(5.8)	332.3(5.3)	268.8(10.8)
DOCUMENT			293.5(5.5)	306.5(5.9)	333.7(4.9)	268.5(9.0)
QUANTITATIVE COMPUTATION			288.5(5.9)	305.7(6.9)	336.1(5.0)	274.9(7.1)
EMPLOYMENT STATUS (CONTINUED)						
PART-TIME PART OF YEAR	275	1,761,586(11%)	24.4(3.7)	24.8(3.7)	44.4(4.3)	6.4(1.8)
NAEP READING PROFICIENCY			278.5(6.9)	316.4(10.1)	334.6(6.7)	268.5(18.1)
PROSE COMPREHENSION			282.2(7.8)	307.7(8.9)	339.3(7.5)	278.8(12.4)
DOCUMENT			279.4(9.1)	310.7(7.3)	336.4(5.6)	262.2(12.1)
QUANTITATIVE COMPUTATION			279.7(9.2)	310.3(7.1)	334.7(7.0)	275.4(10.5)
UNEMPLOYED	117	402,744(14%)	47.5(6.9)	21.2(5.0)	8.9(3.7)	22.4(5.4)
NAEP READING PROFICIENCY			259.5(12.3)	273.9(14.0)	291.5(25.1)	236.8(8.8)
PROSE COMPREHENSION			257.4(11.0)	274.8(18.6)	270.4(24.8)	227.8(16.2)
DOCUMENT			238.1(8.2)	257.3(11.1)	284.0(30.8)	234.8(14.4)
QUANTITATIVE COMPUTATION			265.3(11.3)	261.4(14.5)	278.6(26.9)	232.6(10.4)
IN SCHOOL	161	851,851(20%)	15.3(2.9)	23.2(6.2)	56.9(7.4)	4.6(1.6)
NAEP READING PROFICIENCY			281.6(13.3)	319.6(17.6)	322.3(11.8)	279.7(12.0)
PROSE COMPREHENSION			287.6(10.9)	307.9(13.2)	326.8(8.4)	265.4(13.8)
DOCUMENT			271.5(19.3)	317.8(8.7)	327.8(8.1)	261.1(13.2)
QUANTITATIVE COMPUTATION			284.7(11.9)	319.9(10.8)	334.6(10.5)	269.1(19.0)
KEEPING HOUSE	301	1,432,789(10%)	43.8(3.7)	28.7(3.8)	15.3(3.7)	12.1(2.0)
NAEP READING PROFICIENCY			275.9(6.9)	280.4(8.5)	303.9(11.5)	243.1(11.3)
PROSE COMPREHENSION			272.0(5.9)	284.1(7.1)	313.3(11.0)	253.1(12.3)
DOCUMENT			268.1(7.6)	277.8(8.5)	311.9(9.9)	252.5(9.4)
QUANTITATIVE COMPUTATION			274.1(7.5)	277.4(10.1)	308.7(13.5)	250.5(8.6)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

FATHER'S EDUCATION

	N	WEIGHTED N	<HS GRAD	HS GRAD	POST HS	NON RESP
SPANISH SAMPLE	80	213,081(31%)	77.2(5.6)	5.7(3.3)	5.9(3.0)	11.1(3.8)
NAEP READING PROFICIENCY			160.9(9.6)	164.8(19.2)	190.6(40.4)	151.0(21.1)
PROSE COMPREHENSION			154.9(9.0)	188.3(35.3)	179.4(23.3)	144.1(22.8)
DOCUMENT			137.5(7.3)	154.4(23.5)	151.5(19.5)	119.8(10.6)
QUANTITATIVE COMPUTATION			151.4(12.0)	189.0(37.9)	165.9(40.8)	138.3(33.9)
ENGLISH WHO FAILED CORE	64	224,799(19%)	46.6(8.9)	20.7(6.1)	7.9(5.1)	24.9(6.2)
NAEP READING PROFICIENCY			167.7(25.9)	181.9(15.2)	207.1(22.0)	147.8(14.2)
PROSE COMPREHENSION			150.7(13.7)	186.2(17.5)	220.1(83.6)	149.9(15.1)
DOCUMENT			134.8(13.1)	178.3(20.9)	197.7(40.2)	125.7(11.2)
QUANTITATIVE COMPUTATION			140.7(20.9)	181.9(37.9)	216.7(37.0)	138.6(12.7)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	FULTM-YR	PRTTM-YR	FULTM<YR	PRTTM<YR	PREV-FT	PREV-PT
ENGLISH SAMPLE								
-- TOTAL --	3474	20,720,464(5%)	46.2(2.1)	13.6(1.3)	17.9(0.8)	8.5(0.8)	1.9(0.3)	4.1(0.7)
NAEP READING PROFICIENCY			302.9(2.1)	321.1(3.8)	309.3(3.7)	312.2(5.9)	260.3(7.3)	313.5(7.8)
PROSE COMPREHENSION			303.3(2.5)	320.8(3.6)	307.5(3.8)	313.7(6.1)	255.6(9.4)	313.6(5.8)
DOCUMENT			302.5(2.0)	325.3(3.9)	309.8(3.3)	311.4(4.7)	245.5(6.5)	313.8(6.3)
QUANTITATIVE COMPUTATION			301.7(2.4)	323.0(4.1)	309.8(3.4)	311.4(4.8)	258.3(7.2)	320.5(6.8)
SEX								
MALE	1544	10,054,793(6%)	52.9(2.5)	12.2(1.4)	20.6(1.3)	6.9(1.0)	1.9(0.5)	4.6(1.0)
NAEP READING PROFICIENCY			298.8(3.2)	319.6(5.1)	311.9(5.1)	305.8(9.6)	268.3(13.9)	314.7(11.4)
PROSE COMPREHENSION			300.4(3.3)	322.9(6.2)	308.5(4.7)	311.3(9.1)	260.7(13.5)	318.2(8.7)
DOCUMENT			300.0(3.1)	326.9(6.1)	311.0(4.7)	304.8(7.2)	243.0(9.9)	313.9(10.0)
QUANTITATIVE COMPUTATION			297.8(3.3)	323.2(7.0)	311.1(5.2)	308.7(7.8)	258.6(13.4)	327.5(9.6)
FEMALE	1930	10,665,671(6%)	39.9(2.1)	14.9(1.6)	15.3(1.0)	10.0(0.9)	2.0(0.3)	3.7(0.6)
NAEP READING PROFICIENCY			308.0(3.3)	322.1(4.9)	305.9(4.4)	316.3(6.2)	252.9(6.1)	312.0(10.1)
PROSE COMPREHENSION			307.0(3.1)	319.1(4.7)	306.2(5.7)	315.3(6.3)	251.0(11.7)	308.2(8.7)
DOCUMENT			305.6(2.2)	324.0(4.0)	308.3(4.0)	315.7(5.3)	247.8(8.5)	313.7(7.3)
QUANTITATIVE COMPUTATION			306.6(3.3)	322.7(4.3)	308.1(3.8)	313.2(5.2)	258.1(6.5)	312.5(9.7)
ETHNICITY/RACE								
WHITE	1997	16,018,109(6%)	47.2(2.2)	13.7(1.4)	17.9(0.9)	9.2(0.9)	1.2(0.3)	3.2(0.6)
NAEP READING PROFICIENCY			310.4(2.3)	329.7(3.7)	318.0(4.3)	320.6(6.4)	278.7(11.3)	325.9(10.0)
PROSE COMPREHENSION			311.3(2.7)	329.5(3.5)	316.6(4.0)	322.5(6.5)	277.6(14.7)	327.9(8.5)
DOCUMENT			311.2(2.2)	335.8(3.6)	321.4(3.2)	321.0(5.0)	268.9(7.8)	329.6(7.5)
QUANTITATIVE COMPUTATION			310.2(2.7)	332.7(4.7)	318.2(4.0)	320.2(4.9)	281.5(11.5)	335.8(9.4)
BLACK	957	2,693,192(8%)	42.1(2.5)	12.4(1.7)	17.7(1.4)	7.2(1.1)	6.1(1.2)	5.3(0.9)
NAEP READING PROFICIENCY			264.3(4.3)	276.3(9.4)	264.1(4.5)	261.6(6.7)	243.3(7.2)	286.2(10.1)
PROSE COMPREHENSION			260.4(3.8)	269.5(7.1)	258.7(5.3)	255.9(7.7)	234.9(10.5)	279.4(12.1)
DOCUMENT			260.4(4.2)	268.0(7.1)	254.8(4.7)	246.9(7.5)	222.5(6.3)	278.8(11.9)
QUANTITATIVE COMPUTATION			259.5(3.1)	271.4(5.3)	264.9(4.5)	254.9(6.8)	236.8(6.7)	278.8(11.9)
HISPANIC	391	1,264,984(12%)	49.7(4.3)	13.5(2.6)	15.7(4.1)	5.5(1.7)	2.8(0.8)	2.9(0.9)
NAEP READING PROFICIENCY			288.3(6.3)	303.7(6.2)	296.7(8.1)	287.0(11.1)	231.5(17.1)	283.5(13.6)
PROSE COMPREHENSION			286.9(5.4)	303.0(9.5)	302.0(8.0)	279.5(9.4)	225.7(11.2)	297.3(22.0)
DOCUMENT			275.7(5.0)	307.6(11.1)	292.4(8.5)	292.2(12.8)	212.5(12.6)	288.2(14.6)
QUANTITATIVE COMPUTATION			277.5(7.2)	298.5(10.2)	296.2(9.8)	291.6(12.6)	221.1(17.9)	305.1(17.2)
OTHER	129	744,179(20%)	32.8(8.0)	16.4(5.5)	21.3(5.6)	4.2(1.4)	0.6(0.5)	21.2(8.9)
NAEP READING PROFICIENCY			287.7(9.8)	312.7(16.1)	302.4(26.8)	285.8(36.1)	299.5(85.8)	304.1(27.1)
PROSE COMPREHENSION			298.1(13.1)	329.3(16.6)	297.0(24.9)	332.4(21.0)	278.1(12.2)	301.0(20.4)
DOCUMENT			296.2(14.3)	317.0(15.0)	287.6(16.6)	300.6(22.7)	320.0(****)	299.4(25.4)
QUANTITATIVE COMPUTATION			296.7(10.7)	323.4(13.1)	309.6(13.7)	292.1(25.5)	314.2(54.0)	311.6(7.4)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	FULTM-YR	PRTTM-YR	FULTM<YR	PRTTM<YR	PREV-FT	PREV-PT
ENGLISH SAMPLE (CONTINUED)								
REGION								
NORTHEAST	679	4,448,158(10%)	47.1(3.6)	14.3(1.9)	17.0(2.0)	8.2(1.7)	1.8(0.5)	3.8(1.0)
NAEP READING PROFICIENCY			312.1(3.7)	321.7(7.6)	318.4(10.5)	314.6(10.9)	264.6(15.0)	324.0(9.5)
PROSE COMPREHENSION			312.5(5.5)	323.3(5.1)	318.0(10.5)	316.9(13.7)	252.6(30.3)	323.4(15.1)
DOCUMENT			310.5(4.0)	323.1(8.5)	317.6(8.4)	305.0(8.3)	261.8(14.1)	321.4(17.0)
QUANTITATIVE COMPUTATION			307.4(5.3)	321.3(8.9)	317.3(6.8)	318.9(11.5)	262.2(22.0)	335.5(13.7)
SOUTHEAST	897	5,140,778(17%)	48.5(4.2)	11.8(2.4)	16.5(1.3)	8.5(1.3)	2.5(0.5)	4.2(2.2)
NAEP READING PROFICIENCY			291.2(3.7)	307.5(11.0)	289.3(5.6)	294.1(10.2)	254.7(9.8)	305.6(27.5)
PROSE COMPREHENSION			287.6(5.5)	311.1(11.5)	289.6(8.7)	293.0(13.6)	248.7(18.0)	307.1(8.9)
DOCUMENT			290.2(4.3)	315.2(12.5)	291.0(5.8)	294.0(12.4)	233.4(9.2)	306.5(25.0)
QUANTITATIVE COMPUTATION			286.7(3.8)	315.2(10.1)	292.0(4.9)	290.3(8.4)	249.3(10.8)	313.3(20.8)
CENTRAL	800	5,364,920(12%)	44.5(5.0)	14.8(2.7)	15.8(1.4)	9.5(1.2)	2.2(0.7)	4.5(1.5)
NAEP READING PROFICIENCY			307.1(4.8)	322.9(6.1)	309.7(7.5)	312.4(10.5)	273.4(17.6)	310.5(16.3)
PROSE COMPREHENSION			309.5(4.8)	318.5(7.0)	311.9(6.8)	322.8(9.0)	267.8(17.1)	302.0(14.3)
DOCUMENT			308.5(3.6)	329.6(5.1)	312.1(4.9)	321.0(6.7)	253.9(15.8)	308.7(13.9)
QUANTITATIVE COMPUTATION			314.4(4.9)	323.3(7.2)	313.8(8.5)	313.7(8.2)	267.7(17.3)	315.7(14.6)
WEST	1098	5,766,608(12%)	45.1(3.8)	13.6(2.6)	21.7(1.8)	7.8(1.8)	1.3(0.4)	3.9(1.0)
NAEP READING PROFICIENCY			302.7(4.7)	329.1(6.2)	316.9(5.5)	327.4(9.8)	244.1(12.6)	316.4(18.9)
PROSE COMPREHENSION			305.4(4.2)	328.5(6.6)	310.2(6.9)	320.8(8.0)	251.1(8.6)	324.8(14.6)
DOCUMENT			302.3(4.3)	330.4(5.7)	316.3(6.4)	322.4(7.5)	235.7(11.8)	320.6(9.6)
QUANTITATIVE COMPUTATION			299.8(3.7)	329.9(6.1)	314.5(5.1)	323.3(8.3)	254.8(15.3)	321.3(8.6)
EDUCATION LEVEL								
LESS THAN HIGH SCHOOL	77	374,926(22%)	30.3(7.5)	2.5(1.4)	15.7(6.4)	18.8(9.6)	8.6(4.0)	0.0(0.0)
NAEP READING PROFICIENCY			241.7(13.6)	238.3(19.8)	221.3(19.3)	241.4(31.3)	198.7(16.4)	*****(0.0)
PROSE COMPREHENSION			229.9(12.6)	196.8(12.0)	231.6(15.5)	286.0(45.8)	194.5(26.6)	*****(0.0)
DOCUMENT			224.9(19.6)	227.0(14.4)	224.9(13.4)	260.7(30.5)	178.2(11.0)	*****(0.0)
QUANTITATIVE COMPUTATION			245.2(11.0)	224.7(24.5)	220.1(16.1)	255.8(25.0)	202.9(17.8)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	40.6(2.9)	3.6(0.6)	22.9(2.5)	7.1(1.3)	5.5(1.2)	1.3(0.4)
NAEP READING PROFICIENCY			270.0(6.8)	281.1(13.0)	262.9(6.7)	252.3(9.1)	248.0(7.8)	260.9(10.4)
PROSE COMPREHENSION			268.9(7.7)	272.5(12.1)	265.1(7.6)	256.8(14.2)	241.1(10.4)	254.0(27.5)
DOCUMENT			256.8(5.9)	265.9(11.2)	265.1(7.7)	252.3(8.4)	235.9(10.6)	250.1(17.6)
QUANTITATIVE COMPUTATION			263.3(6.7)	270.8(11.0)	271.3(5.0)	252.1(9.0)	247.9(10.5)	227.0(17.6)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	FULTM-YR	PRTTM-YR	FULTM<YR	PRTTM<YR	PREV-FT	PREV-PT
ENGLISH SAMPLE (CONTINUED)								
EDUCATION LEVEL (CONTINUED)								
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	55.5(2.2)	9.9(1.0)	15.4(1.2)	5.8(0.8)	1.9(0.4)	2.6(0.7)
NAEP READING PROFICIENCY			296.7(2.3)	298.9(4.0)	297.9(3.7)	297.0(7.0)	271.8(7.9)	290.1(15.1)
PROSE COMPREHENSION			296.2(2.9)	297.3(5.9)	296.1(4.7)	292.2(5.5)	269.9(15.8)	290.8(11.7)
DOCUMENT			296.2(2.1)	297.0(5.8)	301.7(4.7)	293.1(8.3)	255.6(7.7)	287.3(10.7)
QUANTITATIVE COMPUTATION			295.8(2.4)	301.1(6.2)	297.5(4.8)	295.1(7.7)	268.4(10.1)	297.5(9.0)
COLLEGE DEGREE	1058	7,565,453(9%)	36.8(3.2)	22.7(2.3)	19.4(1.3)	12.1(1.5)	0.3(0.2)	7.3(1.4)
NAEP READING PROFICIENCY			331.0(4.6)	336.7(5.0)	345.0(5.7)	340.1(5.1)	326.1(23.3)	327.9(7.9)
PROSE COMPREHENSION			334.4(4.3)	337.9(3.4)	341.1(5.2)	341.6(6.2)	312.4(15.7)	328.2(7.6)
DOCUMENT			336.6(3.3)	345.7(4.0)	341.3(3.7)	339.5(5.2)	314.1(25.7)	330.4(7.4)
QUANTITATIVE COMPUTATION			331.2(4.3)	339.2(4.0)	343.0(3.8)	338.8(6.2)	316.4(23.3)	337.4(9.3)
PARENTAL EDUCATION								
0 - 8 YEARS	357	1,424,884(11%)	43.0(4.0)	6.2(1.5)	19.0(3.6)	10.6(3.3)	6.1(2.1)	4.0(1.4)
NAEP READING PROFICIENCY			274.2(8.4)	300.2(7.7)	277.7(10.6)	274.1(13.1)	267.0(16.3)	286.6(11.8)
PROSE COMPREHENSION			268.8(7.7)	279.5(13.3)	270.9(9.9)	277.6(7.4)	260.9(23.3)	278.2(21.0)
DOCUMENT			273.8(10.0)	286.7(10.8)	272.2(10.6)	259.1(16.6)	242.7(17.0)	288.2(14.3)
QUANTITATIVE COMPUTATION			267.3(6.9)	283.7(15.8)	263.7(9.2)	270.9(14.5)	266.3(19.3)	285.2(17.5)
SOME H.S.	489	2,400,960(9%)	46.7(3.4)	8.4(2.0)	16.5(1.9)	6.7(2.0)	4.6(1.1)	2.2(0.9)
NAEP READING PROFICIENCY			279.5(5.0)	267.3(8.4)	276.7(9.5)	267.4(14.2)	241.6(11.8)	277.0(20.6)
PROSE COMPREHENSION			274.3(6.4)	276.7(12.7)	272.7(7.3)	285.4(13.7)	237.9(12.3)	287.5(16.3)
DOCUMENT			277.8(4.0)	283.3(8.7)	276.1(8.7)	272.6(13.6)	241.7(12.7)	259.7(27.3)
QUANTITATIVE COMPUTATION			281.1(6.0)	289.5(10.3)	279.5(8.4)	278.4(10.8)	257.8(13.4)	278.9(18.8)
GRADUATED H.S.	1537	9,736,634(6%)	52.2(2.2)	12.8(1.5)	16.2(1.2)	6.3(0.8)	1.6(0.4)	3.0(0.8)
NAEP READING PROFICIENCY			305.9(2.3)	311.6(5.8)	304.7(4.4)	307.6(7.6)	270.1(10.9)	315.2(12.8)
PROSE COMPREHENSION			305.6(3.4)	311.8(6.0)	305.7(5.5)	302.3(7.6)	264.6(13.7)	313.0(8.3)
DOCUMENT			304.8(2.8)	311.3(5.3)	307.2(5.1)	310.4(5.9)	249.9(8.7)	313.3(10.2)
QUANTITATIVE COMPUTATION			302.3(2.6)	312.7(4.9)	306.7(4.5)	304.4(6.5)	260.8(11.6)	318.8(10.5)
COLLEGE DEGREE	978	6,737,472(10%)	38.6(3.4)	18.8(2.1)	19.8(1.6)	11.9(1.6)	0.3(0.2)	6.5(1.0)
NAEP READING PROFICIENCY			316.7(4.4)	341.2(5.9)	337.1(4.5)	334.6(6.8)	290.4(47.2)	321.3(12.1)
PROSE COMPREHENSION			322.5(3.7)	340.4(4.5)	334.0(6.0)	338.0(8.4)	281.7(39.6)	324.2(8.4)
DOCUMENT			317.8(4.4)	349.3(3.3)	337.3(4.5)	333.3(5.6)	294.2(41.1)	326.2(7.2)
QUANTITATIVE COMPUTATION			320.1(5.3)	342.3(3.5)	336.2(5.3)	334.0(5.9)	274.5(52.4)	332.5(10.8)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	FULTM-YR	PRTTM-YR	FULTM<YR	PRTTM<YR	PREV-FT	PREV-PT
ENGLISH SAMPLE (CONTINUED)								
EMPLOYMENT STATUS								
FULL-TIME ALL YEAR	1474	9,571,878(6%)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			302.9(2.1)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			303.3(2.5)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			302.5(2.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			301.7(2.4)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	321.1(3.8)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	320.8(3.6)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	325.3(3.9)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	323.0(4.1)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	309.3(3.7)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	307.5(3.8)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	309.8(3.3)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	309.8(3.4)	*****(0.0)	*****(0.0)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)								
PART-TIME PART OF YEAR	275	1,761,586(11%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	312.2(5.9)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	313.7(6.1)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	311.4(4.7)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	311.4(4.8)	*****(0.0)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	100.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	260.3(7.3)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	255.6(9.4)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	245.5(6.5)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	258.3(7.2)	*****(0.0)
IN SCHOOL	161	851,851(20%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	100.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	313.5(7.8)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	313.6(5.8)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	313.8(6.3)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	320.5(6.8)
KEEPING HOUSE	301	1,432,789(10%)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
NAEP READING PROFICIENCY			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
PROSE COMPREHENSION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
DOCUMENT			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)
QUANTITATIVE COMPUTATION			*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	FULTM-YR	PRTTM-YR	FULTM<YR	PRTTM<YR	PREV-FT	PREV-PT
SPANISH SAMPLE	80	213,081(31%)	37.4(6.7)	2.6(2.6)	13.2(3.3)	2.8(2.0)	4.2(2.1)	1.7(1.4)
NAEP READING PROFICIENCY			164.9(17.3)	185.9(****)	159.2(29.5)	131.4(39.9)	138.2(35.2)	178.8(21.1)
PROSE COMPREHENSION			164.3(16.2)	176.5(****)	144.5(9.6)	124.9(58.2)	135.0(23.9)	164.2(24.8)
DOCUMENT			142.4(9.5)	135.0(****)	132.8(16.2)	87.1(58.5)	119.2(31.1)	153.1(15.4)
QUANTITATIVE COMPUTATION			156.8(16.7)	150.3(****)	144.2(25.4)	134.1(40.5)	124.7(23.0)	144.2(27.5)
ENGLISH WHO FAILED CORE	64	224,799(19%)	31.2(6.4)	9.4(4.1)	10.3(4.1)	1.1(1.1)	22.5(11.2)	0.7(0.7)
NAEP READING PROFICIENCY			191.2(19.6)	149.4(23.6)	178.3(15.4)	110.1(****)	158.7(35.8)	110.9(37.3)
PROSE COMPREHENSION			184.6(23.0)	147.2(32.8)	156.7(19.0)	160.0(****)	142.2(15.7)	113.7(50.4)
DOCUMENT			176.9(17.2)	137.7(27.5)	159.5(18.7)	131.1(****)	115.9(6.4)	51.9(27.1)
QUANTITATIVE COMPUTATION			172.8(25.5)	166.3(40.5)	162.4(18.9)	127.4(80.4)	131.7(29.7)	112.5(37.8)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES

  EMPLOYMENT STATUS / EMPLOYMENT HISTORY

                                N        WEIGHTED N         NEVER          NON RESP

ENGLISH SAMPLE
-- TOTAL --                   3474   20,720,464( 5%)     6.9( 0.6)       0.9( 0.2)

    NAEP READING PROFICIENCY                           277.5( 4.5)    289.2(11.7)
    PROSE COMPREHENSION                                279.5( 4.8)    283.6(13.4)
    DOCUMENT                                           275.7( 4.8)    286.3(12.4)
    QUANTITATIVE COMPUTATION                           277.5( 5.7)    290.4(16.9)

SEX
  MALE                        1544   10,054,793( 6%)     0.3( 0.1)       0.6( 0.2)

    NAEP READING PROFICIENCY                           273.6(22.8)    294.3(17.0)
    PROSE COMPREHENSION                                293.1(41.2)    296.9(19.1)
    DOCUMENT                                           268.7(20.7)    297.8(21.0)
    QUANTITATIVE COMPUTATION                           239.8(29.6)    312.4(23.1)

  FEMALE                      1930   10,665,671( 6%)    13.2( 1.1)       1.1( 0.2)

    NAEP READING PROFICIENCY                           277.5( 4.5)    286.5(14.5)
    PROSE COMPREHENSION                                279.2( 4.9)    276.4(15.0)
    DOCUMENT                                           275.8( 4.9)    280.0(16.9)
    QUANTITATIVE COMPUTATION                           278.3( 5.8)    278.6(16.8)

ETHNICITY/RACE
  WHITE                       1997   16,018,109( 6%)     6.8( 0.8)       0.7( 0.2)

    NAEP READING PROFICIENCY                           286.6( 5.3)    303.6(12.9)
    PROSE COMPREHENSION                                291.6( 5.6)    295.8(18.5)
    DOCUMENT                                           288.2( 5.7)    296.2(15.9)
    QUANTITATIVE COMPUTATION                           289.5( 6.7)    301.9(22.0)

  BLACK                        957    2,693,192( 8%)     7.7( 0.9)       1.5( 0.4)

    NAEP READING PROFICIENCY                           239.6( 7.0)    251.4(17.0)
    PROSE COMPREHENSION                                235.9( 8.1)    250.5(17.4)
    DOCUMENT                                           230.2( 5.8)    260.7(13.9)
    QUANTITATIVE COMPUTATION                           231.7( 6.5)    262.6(13.5)

  HISPANIC                     391    1,264,984(12%)     9.1( 1.5)       0.8( 0.4)

    NAEP READING PROFICIENCY                           255.1( 8.6)    255.9(35.7)
    PROSE COMPREHENSION                                243.4( 7.5)    264.0(20.2)
    DOCUMENT                                           240.7( 5.9)    253.1(19.9)
    QUANTITATIVE COMPUTATION                           246.6( 6.6)    258.2(21.3)

  OTHER                        129      744,179(20%)     2.2( 1.2)       1.3( 1.0)

    NAEP READING PROFICIENCY                           302.9(56.1)    310.2(48.9)
    PROSE COMPREHENSION                                281.6(21.4)    296.7(36.7)
    DOCUMENT                                           260.8(23.2)    309.6(85.9)
    QUANTITATIVE COMPUTATION                           274.4(25.0)    304.0(32.0)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	NEVER	NON RESP
ENGLISH SAMPLE (CONTINUED)				
REGION				
NORTHEAST	679	4,448,158(10%)	7.5(1.7)	0.4(0.2)
NAEP READING PROFICIENCY			266.7(6.8)	269.6(29.3)
PROSE COMPREHENSION			265.7(9.1)	284.9(25.7)
DOCUMENT			266.1(4.4)	284.9(38.2)
QUANTITATIVE COMPUTATION			268.1(13.7)	243.3(12.9)
SOUTHEAST	897	5,140,778(17%)	6.7(1.4)	1.4(0.4)
NAEP READING PROFICIENCY			276.1(11.2)	284.5(23.3)
PROSE COMPREHENSION			270.5(7.3)	286.9(21.8)
DOCUMENT			269.8(8.6)	286.3(16.9)
QUANTITATIVE COMPUTATION			272.9(11.6)	294.3(23.6)
CENTRAL	800	5,364,920(12%)	8.0(1.1)	0.7(0.4)
NAEP READING PROFICIENCY			278.6(7.3)	295.2(19.1)
PROSE COMPREHENSION			287.7(9.1)	287.7(16.9)
DOCUMENT			279.3(11.9)	297.3(18.0)
QUANTITATIVE COMPUTATION			276.8(9.3)	325.1(20.5)
WEST	1098	5,766,608(12%)	5.7(0.6)	0.9(0.3)
NAEP READING PROFICIENCY			288.5(10.6)	296.9(24.9)
PROSE COMPREHENSION			292.4(12.5)	276.2(21.2)
DOCUMENT			286.9(10.3)	278.9(22.2)
QUANTITATIVE COMPUTATION			292.8(11.2)	274.8(24.1)
EDUCATION LEVEL				
LESS THAN HIGH SCHOOL	77	374,926(22%)	23.3(5.1)	0.8(0.8)
NAEP READING PROFICIENCY			244.0(13.1)	184.0(30.3)
PROSE COMPREHENSION			235.2(10.8)	151.2(17.8)
DOCUMENT			216.5(12.5)	181.2(16.8)
QUANTITATIVE COMPUTATION			230.9(14.0)	140.4(14.3)
SOME HIGH SCHOOL	618	2,769,840(6%)	17.2(2.2)	1.9(0.6)
NAEP READING PROFICIENCY			251.0(6.6)	257.9(14.0)
PROSE COMPREHENSION			255.5(7.1)	246.7(16.2)
DOCUMENT			251.0(7.3)	249.8(20.1)
QUANTITATIVE COMPUTATION			252.8(6.1)	246.7(21.9)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	NEVER	NON RESP
ENGLISH SAMPLE (CONTINUED)				
EDUCATION LEVEL (CONTINUED)				
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	7.8(0.8)	1.0(0.3)
NAEP READING PROFICIENCY			293.5(5.6)	302.5(15.6)
PROSE COMPREHENSION			293.8(5.0)	296.4(15.9)
DOCUMENT			290.3(5.2)	302.4(17.7)
QUANTITATIVE COMPUTATION			290.9(6.3)	303.0(16.3)
COLLEGE DEGREE	1058	7,565,453(9%)	1.1(0.4)	0.3(0.1)
NAEP READING PROFICIENCY			312.4(11.3)	319.9(20.5)
PROSE COMPREHENSION			327.6(10.5)	329.3(22.5)
DOCUMENT			340.5(9.7)	314.0(18.1)
QUANTITATIVE COMPUTATION			340.0(23.9)	349.6(22.3)
PARENTAL EDUCATION				
0 - 8 YEARS	357	1,424,884(11%)	9.8(1.6)	1.3(0.6)
NAEP READING PROFICIENCY			258.6(10.1)	261.6(26.0)
PROSE COMPREHENSION			244.3(8.4)	253.4(30.5)
DOCUMENT			233.8(7.6)	244.2(14.9)
QUANTITATIVE COMPUTATION			258.9(10.3)	238.7(18.5)
SOME H.S.	489	2,400,960(9%)	14.3(2.0)	0.6(0.3)
NAEP READING PROFICIENCY			257.8(6.5)	260.7(20.3)
PROSE COMPREHENSION			268.9(6.2)	243.8(23.4)
DOCUMENT			265.7(6.8)	226.7(19.2)
QUANTITATIVE COMPUTATION			261.2(7.5)	266.0(24.0)
GRADUATED H.S.	1537	9,736,634(6%)	6.9(0.8)	1.0(0.3)
NAEP READING PROFICIENCY			288.2(5.7)	302.6(11.3)
PROSE COMPREHENSION			287.2(4.4)	297.7(16.9)
DOCUMENT			281.3(7.2)	303.0(19.0)
QUANTITATIVE COMPUTATION			283.7(8.0)	301.6(16.9)
COLLEGE DEGREE	978	6,737,472(10%)	3.4(0.8)	0.6(0.2)
NAEP READING PROFICIENCY			295.2(11.9)	297.2(36.1)
PROSE COMPREHENSION			306.3(11.6)	278.1(28.1)
DOCUMENT			307.9(9.3)	284.4(31.1)
QUANTITATIVE COMPUTATION			304.4(13.4)	295.5(46.9)

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  EMPLOYMENT STATUS / EMPLOYMENT HISTORY

                               N         WEIGHTED N          NEVER          NON RESP

ENGLISH SAMPLE (CONTINUED)
EMPLOYMENT STATUS
  FULL-TIME ALL YEAR         1474     9,571,878( 6%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

  PART-TIME ALL YEAR          479     2,816,437(12%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

  FULL-TIME PART OF YEAR      619     3,703,890( 6%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

EMPLOYMENT STATUS (CONTINUED)
  PART-TIME PART OF YEAR      275     1,761,586(11%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

  UNEMPLOYED                  117       402,744(14%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

  IN SCHOOL                   161       851,851(20%)      0.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            *****( 0.0)    *****( 0.0)
    PROSE COMPREHENSION                                 *****( 0.0)    *****( 0.0)
    DOCUMENT                                            *****( 0.0)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            *****( 0.0)    *****( 0.0)

  KEEPING HOUSE               301     1,432,789(10%)    100.0( 0.0)      0.0( 0.0)

    NAEP READING PROFICIENCY                            277.5( 4.5)    *****( 0.0)
    PROSE COMPREHENSION                                 279.5( 4.8)    *****( 0.0)
    DOCUMENT                                            275.7( 4.8)    *****( 0.0)
    QUANTITATIVE COMPUTATION                            277.5( 5.7)    *****( 0.0)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

EMPLOYMENT STATUS / EMPLOYMENT HISTORY

	N	WEIGHTED N	NEVER	NON RESP
SPANISH SAMPLE	80	213,081(31%)	30.0(8.5)	8.1(3.0)
NAEP READING PROFICIENCY			158.9(12.3)	174.3(40.4)
PROSE COMPREHENSION			153.6(11.1)	172.4(51.4)
DOCUMENT			142.1(9.2)	128.1(35.5)
QUANTITATIVE COMPUTATION			155.0(12.9)	165.6(80.1)
ENGLISH WHO FAILED CORE	64	224,799(19%)	17.7(6.3)	7.1(4.1)
NAEP READING PROFICIENCY			148.5(19.3)	179.5(****)
PROSE COMPREHENSION			164.8(12.5)	169.8(61.5)
DOCUMENT			134.0(18.3)	144.9(59.1)
QUANTITATIVE COMPUTATION			154.1(18.3)	130.8(39.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 1 - NATIONAL, STATE, EDITORIAL, FINANCE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE						
-- TOTAL --	3474	20,720,464(5%)	83.4(0.9)	6.7(0.6)	10.0(0.7)	0.0(0.0)
NAEP READING PROFICIENCY			310.6(2.0)	269.7(5.7)	281.7(4.4)	*****(0.0)
PROSE COMPREHENSION			310.4(2.0)	269.4(4.7)	283.6(4.6)	*****(0.0)
DOCUMENT			311.8(2.0)	261.2(5.6)	277.4(4.1)	*****(0.0)
QUANTITATIVE COMPUTATION			310.7(2.1)	269.9(5.6)	280.8(3.9)	*****(0.0)
SEX						
MALE	1544	10,054,793(6%)	84.4(1.5)	6.6(0.9)	9.0(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			310.0(2.5)	273.1(7.0)	276.4(7.1)	*****(0.0)
PROSE COMPREHENSION			311.1(2.6)	268.1(5.7)	281.1(6.2)	*****(0.0)
DOCUMENT			312.2(2.6)	260.9(8.0)	272.6(6.7)	*****(0.0)
QUANTITATIVE COMPUTATION			311.0(2.7)	265.4(8.6)	276.7(6.0)	*****(0.0)
FEMALE	1930	10,665,671(6%)	82.4(1.0)	6.7(0.7)	10.8(0.9)	0.0(0.0)
NAEP READING PROFICIENCY			311.2(2.5)	266.6(6.8)	286.0(4.6)	*****(0.0)
PROSE COMPREHENSION			309.7(2.3)	270.5(6.7)	285.6(6.1)	*****(0.0)
DOCUMENT			311.4(2.1)	261.5(6.3)	281.1(5.2)	*****(0.0)
QUANTITATIVE COMPUTATION			310.4(2.5)	274.0(7.3)	284.1(4.8)	*****(0.0)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	84.1(0.9)	5.9(0.6)	10.0(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			318.8(2.0)	282.1(5.9)	289.7(5.2)	*****(0.0)
PROSE COMPREHENSION			319.2(1.9)	281.6(5.5)	293.4(5.0)	*****(0.0)
DOCUMENT			321.8(1.9)	275.8(6.5)	287.5(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			319.7(2.3)	281.8(7.6)	291.1(4.3)	*****(0.0)
BLACK	957	2,693,192(8%)	79.8(1.8)	10.3(1.6)	10.0(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			269.8(2.5)	233.6(7.4)	241.7(6.4)	*****(0.0)
PROSE COMPREHENSION			265.1(2.7)	229.4(7.0)	233.9(7.5)	*****(0.0)
DOCUMENT			263.4(2.7)	220.0(8.8)	230.9(7.5)	*****(0.0)
QUANTITATIVE COMPUTATION			265.6(2.5)	231.6(5.9)	236.0(6.7)	*****(0.0)
HISPANIC	391	1,264,984(12%)	81.7(2.1)	6.6(1.8)	11.7(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			291.2(5.4)	259.2(16.1)	270.1(9.7)	*****(0.0)
PROSE COMPREHENSION			291.1(4.6)	247.5(7.1)	267.3(10.8)	*****(0.0)
DOCUMENT			286.1(5.0)	238.9(8.8)	249.7(8.3)	*****(0.0)
QUANTITATIVE COMPUTATION			286.7(5.1)	249.6(9.0)	253.0(10.7)	*****(0.0)
OTHER	129	744,179(20%)	83.6(3.2)	9.8(3.0)	6.6(1.9)	0.0(0.0)
NAEP READING PROFICIENCY			305.5(10.1)	257.8(25.5)	278.1(12.6)	*****(0.0)
PROSE COMPREHENSION			308.1(7.3)	287.4(25.8)	284.4(18.6)	*****(0.0)
DOCUMENT			304.4(5.8)	253.2(16.1)	285.9(13.7)	*****(0.0)
QUANTITATIVE COMPUTATION			311.6(6.3)	283.7(11.1)	275.5(19.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 1 - NATIONAL, STATE, EDITORIAL, FINANCE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	86.9(1.5)	5.6(1.0)	7.4(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			315.3(3.9)	271.1(12.2)	288.0(12.1)	*****(0.0)
PROSE COMPREHENSION			315.2(3.0)	277.5(14.1)	288.3(12.5)	*****(0.0)
DOCUMENT			313.5(2.7)	277.4(11.3)	283.4(12.1)	*****(0.0)
QUANTITATIVE COMPUTATION			312.7(4.3)	280.7(15.1)	288.3(7.5)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	80.9(1.8)	7.5(1.4)	11.6(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			298.3(3.4)	259.8(13.8)	266.1(4.8)	*****(0.0)
PROSE COMPREHENSION			297.0(6.3)	253.3(9.5)	263.4(11.1)	*****(0.0)
DOCUMENT			301.2(4.9)	242.1(11.1)	255.7(7.8)	*****(0.0)
QUANTITATIVE COMPUTATION			297.4(3.8)	259.6(11.2)	263.4(8.0)	*****(0.0)
CENTRAL	800	5,364,920(12%)	81.9(2.2)	7.8(1.6)	10.3(1.4)	0.0(0.0)
NAEP READING PROFICIENCY			313.9(3.8)	275.0(8.4)	279.9(10.1)	*****(0.0)
PROSE COMPREHENSION			315.4(4.0)	271.7(7.6)	289.3(6.6)	*****(0.0)
DOCUMENT			317.1(3.6)	270.3(8.3)	281.1(6.6)	*****(0.0)
QUANTITATIVE COMPUTATION			318.8(3.8)	274.4(9.0)	283.2(6.6)	*****(0.0)
WEST	1098	5,766,608(12%)	84.3(1.5)	5.5(0.8)	10.2(1.3)	0.0(0.0)
NAEP READING PROFICIENCY			314.4(4.7)	273.8(6.4)	295.8(6.1)	*****(0.0)
PROSE COMPREHENSION			313.5(4.1)	279.4(12.3)	296.1(10.2)	*****(0.0)
DOCUMENT			314.8(4.4)	259.6(11.3)	292.5(6.9)	*****(0.0)
QUANTITATIVE COMPUTATION			313.2(4.0)	268.0(8.3)	292.1(6.1)	*****(0.0)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	52.7(6.9)	14.3(5.3)	33.1(8.0)	0.0(0.0)
NAEP READING PROFICIENCY			238.0(11.5)	226.4(21.2)	233.0(13.6)	*****(0.0)
PROSE COMPREHENSION			232.8(8.0)	228.3(12.7)	248.6(29.3)	*****(0.0)
DOCUMENT			223.8(8.8)	222.0(13.6)	229.1(32.1)	*****(0.0)
QUANTITATIVE COMPUTATION			238.9(7.8)	227.4(31.7)	231.8(19.8)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	71.9(2.1)	14.3(1.9)	13.8(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			267.3(4.1)	245.3(10.7)	256.5(7.3)	*****(0.0)
PROSE COMPREHENSION			270.0(4.9)	240.9(8.6)	248.4(6.3)	*****(0.0)
DOCUMENT			265.1(3.9)	227.8(10.7)	240.3(6.8)	*****(0.0)
QUANTITATIVE COMPUTATION			268.2(3.5)	236.2(10.0)	250.4(9.6)	*****(0.0)

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  PRACTICE # 1 - NATIONAL, STATE, EDITORIAL, FINANCE

                                N        WEIGHTED N        YES           NO            NO READ        NON RESP

ENGLISH SAMPLE (CONTINUED)
EDUCATION LEVEL (CONTINUED)
  GRADUATED HIGH SCHOOL       1718    9,999,954( 7%)     81.3( 1.3)     7.0( 1.0)     11.7( 1.2)     0.0( 0.0)

    NAEP READING PROFICIENCY                            300.0( 1.9)   275.9( 7.0)    282.4( 4.2)   *****( 0.0)
    PROSE COMPREHENSION                                 298.7( 2.2)   271.7( 5.8)    285.4( 5.4)   *****( 0.0)
    DOCUMENT                                            300.4( 2.1)   267.6( 5.6)    278.5( 4.9)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            299.6( 2.6)   273.9( 6.8)    282.0( 5.2)   *****( 0.0)

  COLLEGE DEGREE              1058    7,565,453( 9%)     91.8( 1.1)     3.1( 0.6)      5.1( 0.8)     0.0( 0.0)

    NAEP READING PROFICIENCY                            337.6( 2.7)   302.7(12.4)    320.5( 9.3)   *****( 0.0)
    PROSE COMPREHENSION                                 338.0( 2.1)   320.3(12.8)    324.4( 8.6)   *****( 0.0)
    DOCUMENT                                            341.1( 2.1)   308.0( 8.9)    326.5( 5.6)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            337.9( 2.4)   324.9(11.1)    323.3( 7.5)   *****( 0.0)


PARENTAL EDUCATION
  0 - 8 YEARS                  357    1,424,884(11%)     71.4( 3.4)     7.4( 1.4)     21.2( 3.0)     0.0( 0.0)

    NAEP READING PROFICIENCY                            280.2( 6.6)   245.4( 8.6)    267.1( 7.9)   *****( 0.0)
    PROSE COMPREHENSION                                 272.5( 6.2)   242.5( 8.9)    262.3(10.4)   *****( 0.0)
    DOCUMENT                                            276.9( 7.3)   241.9(12.2)    242.9( 8.1)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            272.4( 5.9)   254.3(10.9)    255.5( 7.9)   *****( 0.0)

  SOME H.S.                    489    2,400,960( 9%)     76.4( 1.8)     8.3( 1.6)     15.2( 2.0)     0.0( 0.0)

    NAEP READING PROFICIENCY                            276.6( 3.7)   261.3( 7.9)    256.0( 8.2)   *****( 0.0)
    PROSE COMPREHENSION                                 276.4( 4.0)   256.7(12.8)    262.4( 9.6)   *****( 0.0)
    DOCUMENT                                            282.0( 3.3)   239.0(10.6)    249.8( 9.5)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            281.8( 4.0)   266.3(10.8)    260.7( 9.9)   *****( 0.0)

  GRADUATED H.S.              1537    9,736,634( 6%)     82.8( 1.3)     7.6( 1.0)      9.6( 1.1)     0.0( 0.0)

    NAEP READING PROFICIENCY                            309.8( 1.6)   274.8( 8.4)    287.6( 5.5)   *****( 0.0)
    PROSE COMPREHENSION                                 309.1( 2.6)   270.1( 7.8)    291.1( 6.1)   *****( 0.0)
    DOCUMENT                                            309.9( 2.1)   263.3( 7.7)    286.8( 5.1)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            307.5( 2.0)   268.8( 7.5)    291.1( 5.4)   *****( 0.0)

  COLLEGE DEGREE               978    6,737,472(10%)     90.1( 1.2)     4.2( 0.8)      5.7( 0.8)     0.0( 0.0)

    NAEP READING PROFICIENCY                            330.2( 3.4)   279.5(14.4)    309.3( 7.5)   *****( 0.0)
    PROSE COMPREHENSION                                 332.0( 2.5)   293.5(14.1)    310.8( 9.5)   *****( 0.0)
    DOCUMENT                                            332.3( 2.8)   284.9(10.9)    316.0( 6.0)   *****( 0.0)
    QUANTITATIVE COMPUTATION                            332.5( 3.4)   287.9(12.6)    306.0( 7.2)   *****( 0.0)
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NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 1 - NATIONAL, STATE, EDITORIAL, FINANCE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EMPLOYMENT STATUS						
FULL-TIME ALL YEAR	1474	9,571,878(6%)	85.6(1.2)	5.6(0.8)	8.8(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			307.0(2.4)	269.7(8.2)	283.2(5.5)	*****(0.0)
PROSE COMPREHENSION			307.9(2.6)	267.3(7.1)	282.2(6.9)	*****(0.0)
DOCUMENT			307.8(2.0)	260.0(8.6)	277.7(5.4)	*****(0.0)
QUANTITATIVE COMPUTATION			306.3(2.5)	264.4(10.9)	280.1(6.8)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	85.5(2.1)	6.1(1.4)	8.4(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			325.6(4.2)	291.4(15.5)	296.6(9.0)	*****(0.0)
PROSE COMPREHENSION			326.1(3.7)	282.0(13.2)	294.5(11.8)	*****(0.0)
DOCUMENT			331.1(4.2)	279.5(14.5)	299.6(8.0)	*****(0.0)
QUANTITATIVE COMPUTATION			328.1(4.0)	283.7(14.9)	298.9(9.2)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	85.8(1.7)	5.4(1.1)	8.8(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			314.5(3.4)	259.5(12.8)	289.2(9.5)	*****(0.0)
PROSE COMPREHENSION			312.3(4.1)	263.1(12.7)	287.9(9.2)	*****(0.0)
DOCUMENT			315.8(3.5)	261.5(13.9)	281.2(8.4)	*****(0.0)
QUANTITATIVE COMPUTATION			315.0(3.5)	269.4(11.4)	283.3(7.2)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)						
PART-TIME PART OF YEAR	275	1,761,586(11%)	78.2(3.5)	9.2(2.1)	12.6(2.9)	0.0(0.0)
NAEP READING PROFICIENCY			320.0(5.7)	278.3(13.3)	288.1(14.0)	*****(0.0)
PROSE COMPREHENSION			319.6(6.3)	286.3(16.8)	296.7(7.6)	*****(0.0)
DOCUMENT			320.7(4.3)	276.0(11.9)	279.2(15.1)	*****(0.0)
QUANTITATIVE COMPUTATION			318.4(5.5)	294.7(12.0)	280.5(10.5)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	74.0(7.7)	12.6(3.5)	13.4(7.4)	0.0(0.0)
NAEP READING PROFICIENCY			265.5(7.2)	242.8(18.1)	248.1(14.0)	*****(0.0)
PROSE COMPREHENSION			258.5(10.9)	233.7(20.7)	260.7(44.9)	*****(0.0)
DOCUMENT			251.3(7.9)	222.2(15.5)	235.9(19.5)	*****(0.0)
QUANTITATIVE COMPUTATION			263.5(9.1)	240.5(13.8)	246.9(19.0)	*****(0.0)
IN SCHOOL	161	851,851(20%)	85.1(3.5)	6.7(2.6)	8.3(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			318.5(8.3)	272.4(24.8)	294.6(12.5)	*****(0.0)
PROSE COMPREHENSION			316.3(6.3)	292.1(16.6)	303.4(29.7)	*****(0.0)
DOCUMENT			317.9(6.5)	273.9(24.4)	304.0(17.0)	*****(0.0)
QUANTITATIVE COMPUTATION			321.9(7.8)	312.8(23.4)	312.7(24.8)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	67.5(3.7)	12.7(2.6)	19.9(2.7)	0.0(0.0)
NAEP READING PROFICIENCY			286.8(5.8)	260.0(12.6)	256.9(8.9)	*****(0.0)
PROSE COMPREHENSION			286.8(5.6)	262.8(11.7)	265.5(10.3)	*****(0.0)
DOCUMENT			286.9(5.7)	244.9(12.8)	257.3(10.9)	*****(0.0)
QUANTITATIVE COMPUTATION			285.5(6.5)	250.5(9.1)	267.5(9.5)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 1 - NATIONAL, STATE, EDITORIAL, FINANCE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
SPANISH SAMPLE	80	213,081(31%)	16.1(6.2)	4.6(2.2)	79.3(6.2)	0.0(0.0)
NAEP READING PROFICIENCY			195.6(14.6)	166.8(29.2)	154.6(10.8)	*****(0.0)
PROSE COMPREHENSION			190.3(20.6)	143.9(42.5)	151.1(10.0)	*****(0.0)
DOCUMENT			184.3(23.6)	133.1(16.1)	128.0(6.5)	*****(0.0)
QUANTITATIVE COMPUTATION			197.6(14.7)	139.9(15.5)	144.6(8.6)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	33.5(5.6)	27.6(10.7)	39.0(8.5)	0.0(0.0)
NAEP READING PROFICIENCY			186.2(15.1)	166.3(30.9)	155.7(19.8)	*****(0.0)
PROSE COMPREHENSION			193.9(20.6)	142.1(14.1)	152.1(15.7)	*****(0.0)
DOCUMENT			176.5(15.3)	126.6(8.8)	134.7(13.4)	*****(0.0)
QUANTITATIVE COMPUTATION			176.9(25.1)	135.5(27.6)	149.2(15.3)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 2 - SPORTS

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE						
-- TOTAL --	3474	20,720,464(5%)	45.4(1.6)	44.6(1.3)	10.0(0.7)	0.0(0.0)
NAEP READING PROFICIENCY			308.2(2.4)	306.9(2.6)	281.7(4.4)	*****(0.0)
PROSE COMPREHENSION			309.0(2.5)	305.8(2.3)	283.6(4.6)	*****(0.0)
DOCUMENT			309.0(2.4)	307.2(2.3)	277.4(4.1)	*****(0.0)
QUANTITATIVE COMPUTATION			308.8(2.8)	306.6(2.6)	280.8(3.9)	*****(0.0)
SEX						
MALE	1544	10,054,793(6%)	64.6(2.2)	26.4(1.7)	9.0(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			308.0(2.9)	305.8(4.6)	276.4(7.1)	*****(0.0)
PROSE COMPREHENSION			307.7(3.2)	308.7(4.6)	281.1(6.2)	*****(0.0)
DOCUMENT			309.0(3.0)	307.4(4.8)	272.6(6.7)	*****(0.0)
QUANTITATIVE COMPUTATION			307.7(3.2)	307.8(5.7)	276.7(6.0)	*****(0.0)
FEMALE	1930	10,665,671(6%)	27.4(1.6)	61.8(1.8)	10.8(0.9)	0.0(0.0)
NAEP READING PROFICIENCY			308.8(3.3)	307.4(2.8)	286.0(4.6)	*****(0.0)
PROSE COMPREHENSION			311.7(3.6)	304.6(2.3)	285.6(6.1)	*****(0.0)
DOCUMENT			308.9(3.1)	307.1(2.2)	281.1(5.2)	*****(0.0)
QUANTITATIVE COMPUTATION			311.2(3.8)	306.1(2.5)	284.1(4.8)	*****(0.0)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	44.7(1.8)	45.3(1.6)	10.0(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			318.6(2.5)	314.3(2.7)	289.7(5.2)	*****(0.0)
PROSE COMPREHENSION			319.6(2.5)	313.9(2.4)	293.4(5.0)	*****(0.0)
DOCUMENT			321.7(2.5)	316.0(2.4)	287.5(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			320.1(3.2)	314.3(2.9)	291.1(4.3)	*****(0.0)
BLACK	957	2,693,192(8%)	51.6(2.8)	38.5(2.7)	10.0(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			265.7(5.0)	265.7(3.7)	241.7(6.4)	*****(0.0)
PROSE COMPREHENSION			262.2(4.4)	259.4(3.6)	233.9(7.5)	*****(0.0)
DOCUMENT			257.2(3.6)	260.1(4.6)	230.9(7.5)	*****(0.0)
QUANTITATIVE COMPUTATION			260.8(2.9)	263.0(4.9)	236.0(6.7)	*****(0.0)
HISPANIC	391	1,264,984(12%)	42.6(3.1)	45.7(3.0)	11.7(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			289.0(6.2)	288.6(6.7)	270.1(9.7)	*****(0.0)
PROSE COMPREHENSION			285.7(6.7)	289.9(5.7)	267.3(10.8)	*****(0.0)
DOCUMENT			279.7(7.3)	285.3(5.4)	249.7(8.3)	*****(0.0)
QUANTITATIVE COMPUTATION			282.6(7.9)	285.1(6.2)	253.0(10.7)	*****(0.0)
OTHER	129	744,179(20%)	43.3(5.7)	50.0(5.9)	6.6(1.9)	0.0(0.0)
NAEP READING PROFICIENCY			293.3(12.5)	306.8(13.0)	278.1(12.6)	*****(0.0)
PROSE COMPREHENSION			312.5(11.0)	300.3(9.3)	284.4(18.6)	*****(0.0)
DOCUMENT			298.6(10.3)	299.4(7.3)	285.9(13.7)	*****(0.0)
QUANTITATIVE COMPUTATION			306.1(7.6)	310.8(8.2)	275.5(19.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 2 - SPORTS

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	49.8(2.2)	42.8(2.2)	7.4(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			312.6(3.8)	312.6(4.9)	288.0(12.1)	*****(0.0)
PROSE COMPREHENSION			314.8(3.3)	310.7(6.0)	288.3(12.5)	*****(0.0)
DOCUMENT			310.2(3.5)	312.6(2.9)	283.4(12.1)	*****(0.0)
QUANTITATIVE COMPUTATION			310.7(4.4)	310.8(5.6)	288.3(7.5)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	41.0(2.5)	47.4(2.3)	11.6(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			292.9(5.6)	296.8(4.0)	266.1(4.8)	*****(0.0)
PROSE COMPREHENSION			293.9(7.8)	292.8(5.8)	263.4(11.1)	*****(0.0)
DOCUMENT			293.6(6.2)	298.3(5.6)	255.7(7.8)	*****(0.0)
QUANTITATIVE COMPUTATION			294.8(6.4)	293.6(4.2)	263.4(8.0)	*****(0.0)
CENTRAL	800	5,364,920(12%)	51.4(3.8)	38.4(3.4)	10.3(1.4)	0.0(0.0)
NAEP READING PROFICIENCY			312.4(5.4)	308.0(3.3)	279.9(10.1)	*****(0.0)
PROSE COMPREHENSION			314.8(4.9)	307.3(3.6)	289.3(6.6)	*****(0.0)
DOCUMENT			316.6(4.7)	308.1(3.4)	281.1(6.6)	*****(0.0)
QUANTITATIVE COMPUTATION			315.4(5.3)	314.2(4.3)	283.2(6.6)	*****(0.0)
WEST	1098	5,766,608(12%)	40.5(2.5)	49.4(2.1)	10.2(1.3)	0.0(0.0)
NAEP READING PROFICIENCY			313.0(3.9)	310.9(6.4)	295.8(6.1)	*****(0.0)
PROSE COMPREHENSION			310.2(4.3)	312.5(4.8)	296.1(10.2)	*****(0.0)
DOCUMENT			312.7(4.6)	310.4(5.1)	292.5(6.9)	*****(0.0)
QUANTITATIVE COMPUTATION			311.7(4.4)	309.3(5.3)	292.1(6.1)	*****(0.0)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	25.8(5.2)	41.1(9.1)	33.1(8.0)	0.0(0.0)
NAEP READING PROFICIENCY			228.4(9.9)	240.0(14.4)	233.0(13.6)	*****(0.0)
PROSE COMPREHENSION			225.9(9.6)	235.6(11.4)	248.6(29.3)	*****(0.0)
DOCUMENT			217.8(12.0)	227.0(12.7)	229.1(32.1)	*****(0.0)
QUANTITATIVE COMPUTATION			230.8(13.4)	240.0(13.3)	231.8(19.8)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	31.6(2.8)	54.6(2.7)	13.8(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			255.8(7.4)	268.3(4.1)	256.5(7.3)	*****(0.0)
PROSE COMPREHENSION			257.9(7.5)	269.4(4.3)	248.4(6.3)	*****(0.0)
DOCUMENT			251.6(5.9)	263.1(4.5)	240.3(6.8)	*****(0.0)
QUANTITATIVE COMPUTATION			255.5(6.1)	267.2(3.7)	250.4(9.6)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 2 - SPORTS

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EDUCATION LEVEL (CONTINUED)						
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	41.9(2.0)	46.4(1.9)	11.7(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			295.4(2.7)	300.5(2.8)	282.4(4.2)	*****(0.0)
PROSE COMPREHENSION			293.9(2.6)	299.0(2.7)	285.4(5.4)	*****(0.0)
DOCUMENT			292.6(2.9)	302.5(2.1)	278.5(4.9)	*****(0.0)
QUANTITATIVE COMPUTATION			293.7(3.6)	301.1(2.9)	282.0(5.2)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	56.2(2.2)	38.7(2.0)	5.1(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			333.5(3.0)	340.6(3.9)	320.5(9.3)	*****(0.0)
PROSE COMPREHENSION			336.3(2.7)	339.1(2.6)	324.4(8.6)	*****(0.0)
DOCUMENT			339.0(2.6)	341.6(2.9)	326.5(5.6)	*****(0.0)
QUANTITATIVE COMPUTATION			336.4(2.8)	339.1(3.8)	323.3(7.5)	*****(0.0)
PARENTAL EDUCATION						
0 - 8 YEARS	357	1,424,884(11%)	37.8(3.2)	41.0(3.4)	21.2(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			273.0(10.2)	280.5(6.0)	267.1(7.9)	*****(0.0)
PROSE COMPREHENSION			266.9(8.7)	272.2(7.1)	262.3(10.4)	*****(0.0)
DOCUMENT			270.4(10.9)	276.6(6.7)	242.9(8.1)	*****(0.0)
QUANTITATIVE COMPUTATION			264.3(7.6)	276.6(7.5)	255.5(7.9)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	34.9(3.4)	49.8(2.7)	15.2(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			276.3(4.7)	274.3(5.0)	256.0(8.2)	*****(0.0)
PROSE COMPREHENSION			280.3(5.4)	270.4(6.5)	262.4(9.6)	*****(0.0)
DOCUMENT			280.2(5.6)	276.1(5.2)	249.8(9.5)	*****(0.0)
QUANTITATIVE COMPUTATION			284.4(6.0)	277.5(5.6)	260.7(9.9)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	45.9(1.8)	44.4(1.8)	9.6(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			305.8(2.6)	307.8(2.6)	287.6(5.5)	*****(0.0)
PROSE COMPREHENSION			305.2(3.4)	306.5(2.8)	291.1(6.1)	*****(0.0)
DOCUMENT			306.1(3.3)	305.9(2.4)	286.8(5.1)	*****(0.0)
QUANTITATIVE COMPUTATION			304.5(3.3)	304.0(3.2)	291.1(5.4)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	50.9(2.3)	43.4(2.3)	5.7(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			327.5(3.1)	328.4(5.4)	309.3(7.5)	*****(0.0)
PROSE COMPREHENSION			330.1(3.7)	330.4(3.3)	310.8(9.5)	*****(0.0)
DOCUMENT			328.2(3.7)	332.5(2.9)	316.0(6.0)	*****(0.0)
QUANTITATIVE COMPUTATION			329.9(5.0)	331.3(3.9)	306.0(7.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 2 - SPORTS

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EMPLOYMENT STATUS						
FULL-TIME ALL YEAR	1474	9,571,878(6%)	49.6(2.1)	41.6(1.8)	8.8(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			302.7(3.1)	307.3(3.2)	283.2(5.5)	*****(0.0)
PROSE COMPREHENSION			303.5(3.1)	307.6(3.6)	282.2(6.9)	*****(0.0)
DOCUMENT			303.3(3.0)	306.8(2.9)	277.7(5.4)	*****(0.0)
QUANTITATIVE COMPUTATION			301.5(3.7)	306.5(3.4)	280.1(6.8)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	46.9(3.7)	44.6(3.6)	8.4(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			319.8(5.2)	327.0(6.3)	296.6(9.0)	*****(0.0)
PROSE COMPREHENSION			324.4(5.0)	321.9(4.2)	294.5(11.8)	*****(0.0)
DOCUMENT			328.9(5.1)	326.3(5.0)	299.6(8.0)	*****(0.0)
QUANTITATIVE COMPUTATION			324.1(5.0)	326.3(5.1)	298.9(9.2)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	47.6(2.9)	43.6(2.6)	8.8(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			317.7(4.4)	304.1(5.9)	289.2(9.5)	*****(0.0)
PROSE COMPREHENSION			315.2(5.6)	303.0(5.3)	287.9(9.2)	*****(0.0)
DOCUMENT			315.8(4.4)	309.0(4.6)	281.2(8.4)	*****(0.0)
QUANTITATIVE COMPUTATION			318.7(5.2)	305.3(5.1)	283.3(7.2)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)						
PART-TIME PART OF YEAR	275	1,761,586(11%)	43.7(4.0)	43.7(3.4)	12.6(2.9)	0.0(0.0)
NAEP READING PROFICIENCY			317.6(8.0)	313.7(8.6)	288.1(14.0)	*****(0.0)
PROSE COMPREHENSION			320.5(8.4)	311.8(7.4)	296.7(7.6)	*****(0.0)
DOCUMENT			318.5(5.8)	313.5(6.8)	279.2(15.1)	*****(0.0)
QUANTITATIVE COMPUTATION			315.9(7.9)	315.9(5.2)	280.5(10.5)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	45.0(8.0)	41.6(7.2)	13.4(7.4)	0.0(0.0)
NAEP READING PROFICIENCY			267.4(10.8)	256.6(10.3)	248.1(14.0)	*****(0.0)
PROSE COMPREHENSION			261.0(12.6)	248.2(13.8)	260.7(44.9)	*****(0.0)
DOCUMENT			249.0(8.9)	244.9(10.9)	235.9(19.5)	*****(0.0)
QUANTITATIVE COMPUTATION			261.8(11.6)	258.3(10.1)	246.9(19.0)	*****(0.0)
IN SCHOOL	161	851,851(20%)	42.1(4.8)	49.6(4.9)	8.3(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			318.8(13.3)	312.1(9.5)	294.6(12.5)	*****(0.0)
PROSE COMPREHENSION			320.7(10.5)	309.2(6.8)	303.4(29.7)	*****(0.0)
DOCUMENT			316.6(10.3)	313.0(7.4)	304.0(17.0)	*****(0.0)
QUANTITATIVE COMPUTATION			330.6(11.6)	313.3(8.9)	312.7(24.8)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	15.7(2.7)	64.4(3.4)	19.9(2.7)	0.0(0.0)
NAEP READING PROFICIENCY			265.8(11.2)	286.7(6.1)	256.9(8.9)	*****(0.0)
PROSE COMPREHENSION			264.0(9.9)	287.6(5.0)	265.5(10.3)	*****(0.0)
DOCUMENT			256.0(9.7)	286.2(5.3)	257.3(10.9)	*****(0.0)
QUANTITATIVE COMPUTATION			268.0(12.2)	282.9(6.7)	267.5(9.5)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 2 - SPORTS

	N	WEIGHTED N	YES	NO	[illegible] READ	NON RESP
SPANISH SAMPLE	80	213,081(31%)	14.[illegible](5.6)	6.1(2.2)	79.3(6.2)	0.0(0.0)
NAEP READING PROFICIENCY			199.1(1[illegible].6)	165.6(20.5)	154.6(10.8)	*****(0.0)
PROSE COMPREHENSION			189.3(24.8)	157.8(27.7)	151.1(10.0)	*****(0.0)
DOCUMENT			177.2(18.4)	163.1(30.7)	128.0(6.5)	*****(0.0)
QUANTITATIVE COMPUTATION			186.0(18.4)	182.2(51.4)	144.6(8.6)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	25.3(6.9)	35.7(11.2)	39.0(8.5)	0.0(0.0)
NAEP READING PROFICIENCY			173.6(13.7)	179.7(29.9)	155.7(19.8)	*****(0.0)
PROSE COMPREHENSION			165.5(14.7)	174.1(25.9)	152.1(15.7)	*****(0.0)
DOCUMENT			157.5(16.5)	151.5(19.0)	134.7(13.4)	*****(0.0)
QUANTITATIVE COMPUTATION			150.7(17.4)	163.5(32.1)	149.2(15.3)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 3 - SOCIETY, REVIEWS, HOROSCOPE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE						
-- TOTAL --	3474	20,720,464(5%)	62.8(1.3)	27.3(1.3)	10.0(0.7)	0.0(0.0)
NAEP READING PROFICIENCY			309.4(2.4)	303.3(2.8)	281.7(4.4)	*****(0.0)
PROSE COMPREHENSION			308.3(2.1)	305.3(3.8)	283.6(4.6)	*****(0.0)
DOCUMENT			309.4(2.3)	304.9(3.3)	277.4(4.1)	*****(0.0)
QUANTITATIVE COMPUTATION			309.5(2.6)	303.6(3.1)	280.8(3.9)	*****(0.0)
SEX						
MALE	1544	10,054,793(6%)	51.8(2.0)	39.2(1.9)	9.0(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			310.0(3.5)	303.8(3.4)	276.4(7.1)	*****(0.0)
PROSE COMPREHENSION			310.8(3.0)	304.3(4.5)	281.1(6.2)	*****(0.0)
DOCUMENT			311.0(3.3)	305.2(4.4)	272.6(6.7)	*****(0.0)
QUANTITATIVE COMPUTATION			312.0(3.7)	302.0(3.6)	276.7(6.0)	*****(0.0)
FEMALE	1930	10,665,671(6%)	73.2(1.3)	16.0(1.3)	10.8(0.9)	0.0(0.0)
NAEP READING PROFICIENCY			309.1(2.7)	302.1(4.6)	286.0(4.6)	*****(0.0)
PROSE COMPREHENSION			306.6(2.1)	307.4(4.5)	285.6(6.1)	*****(0.0)
DOCUMENT			308.4(2.2)	304.2(3.8)	281.1(5.2)	*****(0.0)
QUANTITATIVE COMPUTATION			307.8(2.6)	307.4(4.5)	284.1(4.8)	*****(0.0)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	62.0(1.6)	28.1(1.6)	10.0(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			319.5(2.5)	309.6(2.8)	289.7(5.2)	*****(0.0)
PROSE COMPREHENSION			318.3(2.1)	313.4(3.7)	293.4(5.0)	*****(0.0)
DOCUMENT			320.7(2.3)	314.8(3.1)	287.5(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			319.7(2.7)	311.6(3.6)	291.1(4.3)	*****(0.0)
BLACK	957	2,693,192(8%)	66.0(3.2)	24.0(3.3)	10.0(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			264.5(2.5)	268.9(7.7)	241.7(6.4)	*****(0.0)
PROSE COMPREHENSION			260.9(3.0)	261.4(7.1)	233.9(7.5)	*****(0.0)
DOCUMENT			257.8(3.1)	260.2(6.7)	230.9(7.5)	*****(0.0)
QUANTITATIVE COMPUTATION			262.5(3.2)	259.5(5.5)	236.0(6.7)	*****(0.0)
HISPANIC	391	1,264,984(12%)	66.5(3.3)	21.8(3.1)	11.7(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			289.9(5.6)	285.3(8.0)	270.1(9.7)	*****(0.0)
PROSE COMPREHENSION			288.5(4.8)	285.9(10.3)	267.3(10.8)	*****(0.0)
DOCUMENT			286.2(5.6)	271.5(9.7)	249.7(8.3)	*****(0.0)
QUANTITATIVE COMPUTATION			286.0(5.6)	277.5(8.3)	253.0(10.7)	*****(0.0)
OTHER	129	744,179(20%)	62.5(6.3)	30.9(5.7)	6.6(1.9)	0.0(0.0)
NAEP READING PROFICIENCY			301.3(11.1)	298.9(16.3)	278.1(12.6)	*****(0.0)
PROSE COMPREHENSION			312.8(7.2)	292.1(13.8)	284.4(18.6)	*****(0.0)
DOCUMENT			309.2(6.9)	278.5(7.3)	285.9(13.7)	*****(0.0)
QUANTITATIVE COMPUTATION			311.6(7.4)	302.6(8.9)	275.5(19.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 3 - SOCIETY, REVIEWS, HOROSCOPE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	69.5(2.8)	23.1(2.6)	7.4(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			315.1(4.6)	305.1(4.8)	288.0(12.1)	*****(0.0)
PROSE COMPREHENSION			313.8(4.1)	310.3(7.4)	288.3(12.5)	*****(0.0)
DOCUMENT			313.6(3.7)	304.2(6.6)	283.4(12.1)	*****(0.0)
QUANTITATIVE COMPUTATION			313.0(3.7)	303.9(9.7)	288.3(7.5)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	59.5(2.6)	28.9(2.6)	11.6(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			296.2(3.3)	292.5(6.7)	266.1(4.8)	*****(0.0)
PROSE COMPREHENSION			294.9(6.9)	290.0(9.6)	263.4(11.1)	*****(0.0)
DOCUMENT			298.5(5.8)	291.2(8.5)	255.7(7.8)	*****(0.0)
QUANTITATIVE COMPUTATION			295.5(4.4)	291.4(6.2)	263.4(8.0)	*****(0.0)
CENTRAL	800	5,364,920(12%)	60.2(2.8)	29.5(2.8)	10.3(1.4)	0.0(0.0)
NAEP READING PROFICIENCY			311.3(4.4)	309.0(5.1)	279.9(10.1)	*****(0.0)
PROSE COMPREHENSION			310.8(4.5)	313.2(5.9)	289.3(6.6)	*****(0.0)
DOCUMENT			310.7(5.4)	317.7(3.7)	281.1(6.6)	*****(0.0)
QUANTITATIVE COMPUTATION			316.0(4.8)	312.7(4.7)	283.2(6.6)	*****(0.0)
WEST	1098	5,766,608(12%)	62.9(2.3)	26.9(2.4)	10.2(1.3)	0.0(0.0)
NAEP READING PROFICIENCY			314.1(5.8)	306.7(6.2)	295.8(6.1)	*****(0.0)
PROSE COMPREHENSION			312.7(3.9)	308.5(6.2)	296.1(10.2)	*****(0.0)
DOCUMENT			313.9(4.7)	305.6(5.6)	292.5(6.9)	*****(0.0)
QUANTITATIVE COMPUTATION			312.4(5.0)	305.8(5.0)	292.1(6.1)	*****(0.0)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	36.3(5.7)	30.7(10.0)	33.1(8.0)	0.0(0.0)
NAEP READING PROFICIENCY			241.7(13.7)	228.3(12.3)	233.0(13.6)	*****(0.0)
PROSE COMPREHENSION			229.1(7.4)	235.1(11.7)	248.6(29.3)	*****(0.0)
DOCUMENT			232.3(8.8)	213.0(10.1)	229.1(32.1)	*****(0.0)
QUANTITATIVE COMPUTATION			239.4(16.9)	232.9(8.2)	231.8(19.8)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	60.7(3.0)	25.5(2.8)	13.8(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			265.1(4.2)	260.2(8.4)	256.5(7.3)	*****(0.0)
PROSE COMPREHENSION			267.7(4.7)	259.2(8.2)	248.4(6.3)	*****(0.0)
DOCUMENT			261.5(4.6)	252.6(6.8)	240.3(6.8)	*****(0.0)
QUANTITATIVE COMPUTATION			266.0(3.9)	255.5(6.2)	250.4(9.6)	*****(0.0)

PRACTICE # 3 - SOCIETY, REVIEWS, HOROSCOPE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EDUCATION LEVEL (CONTINUED)						
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	60.3(1.7)	28.0(1.7)	11.7(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			297.5(2.1)	299.4(3.6)	282.4(4.2)	*****(0.0)
PROSE COMPREHENSION			296.1(2.4)	297.6(3.5)	285.4(5.4)	*****(0.0)
DOCUMENT			297.4(2.2)	298.7(3.4)	278.5(4.9)	*****(0.0)
QUANTITATIVE COMPUTATION			298.0(2.8)	296.8(3.1)	282.0(5.2)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	68.2(2.3)	26.7(2.2)	5.1(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			339.6(2.9)	328.3(5.0)	320.5(9.3)	*****(0.0)
PROSE COMPREHENSION			337.9(2.5)	336.2(3.1)	324.4(8.6)	*****(0.0)
DOCUMENT			341.2(2.4)	337.1(3.9)	326.5(5.6)	*****(0.0)
QUANTITATIVE COMPUTATION			338.9(2.6)	333.9(4.7)	323.3(7.5)	*****(0.0)
PARENTAL EDUCATION						
0 - 8 YEARS	357	1,424,884(11%)	51.7(3.6)	27.1(3.7)	21.2(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			276.8(5.3)	277.1(12.6)	267.1(7.9)	*****(0.0)
PROSE COMPREHENSION			272.0(5.0)	265.1(12.4)	262.3(10.4)	*****(0.0)
DOCUMENT			275.8(6.7)	269.4(13.3)	242.9(8.1)	*****(0.0)
QUANTITATIVE COMPUTATION			275.4(4.9)	261.7(10.7)	255.5(7.9)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	58.9(3.0)	25.8(2.3)	15.2(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			277.8(3.7)	269.1(8.1)	256.0(8.2)	*****(0.0)
PROSE COMPREHENSION			275.6(4.6)	272.0(8.7)	262.4(9.6)	*****(0.0)
DOCUMENT			277.8(3.1)	277.9(5.7)	249.8(9.5)	*****(0.0)
QUANTITATIVE COMPUTATION			280.9(4.6)	279.0(6.6)	260.7(9.9)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	61.7(1.5)	28.7(1.6)	9.6(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			307.9(1.9)	304.4(4.2)	287.6(5.5)	*****(0.0)
PROSE COMPREHENSION			305.8(2.6)	305.8(4.3)	291.1(6.1)	*****(0.0)
DOCUMENT			305.7(2.6)	306.5(3.7)	286.8(5.1)	*****(0.0)
QUANTITATIVE COMPUTATION			305.0(2.4)	302.6(3.8)	291.1(5.4)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	68.2(2.4)	26.0(2.3)	5.7(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			330.0(3.8)	322.4(5.5)	309.3(7.5)	*****(0.0)
PROSE COMPREHENSION			331.0(2.5)	328.4(4.7)	310.8(9.5)	*****(0.0)
DOCUMENT			332.6(3.0)	323.7(5.0)	316.0(6.0)	*****(0.0)
QUANTITATIVE COMPUTATION			332.5(3.6)	325.2(6.0)	306.0(7.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 3 - SOCIETY, REVIEWS, HOROSCOPE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EMPLOYMENT STATUS						
FULL-TIME ALL YEAR	1474	9,571,878(6%)	59.1(1.8)	32.1(1.9)	8.8(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			306.1(2.8)	302.3(4.4)	283.2(5.5)	*****(0.0)
PROSE COMPREHENSION			305.4(2.7)	305.3(5.0)	282.2(6.9)	*****(0.0)
DOCUMENT			306.0(2.3)	302.8(4.6)	277.7(5.4)	*****(0.0)
QUANTITATIVE COMPUTATION			306.0(3.3)	299.7(3.9)	280.1(6.8)	*****(0.0)
PART-TIME ALL YEAR	479	2,816,437(12%)	70.8(2.8)	20.8(2.3)	8.4(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			324.4(4.1)	319.6(7.4)	296.6(9.0)	*****(0.0)
PROSE COMPREHENSION			324.1(4.5)	320.0(7.0)	294.5(11.8)	*****(0.0)
DOCUMENT			327.8(4.6)	327.2(6.5)	299.6(8.0)	*****(0.0)
QUANTITATIVE COMPUTATION			327.1(5.2)	318.8(5.4)	298.9(9.2)	*****(0.0)
FULL-TIME PART OF YEAR	619	3,703,890(6%)	66.5(2.4)	24.8(2.5)	8.8(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			312.0(4.1)	309.1(9.2)	289.2(9.5)	*****(0.0)
PROSE COMPREHENSION			311.8(4.7)	302.7(8.0)	287.9(9.2)	*****(0.0)
DOCUMENT			315.2(4.1)	305.4(7.2)	281.2(8.4)	*****(0.0)
QUANTITATIVE COMPUTATION			312.6(4.6)	311.6(5.5)	283.3(7.2)	*****(0.0)
EMPLOYMENT STATUS (CONTINUED)						
PART-TIME PART OF YEAR	275	1,761,586(11%)	63.1(4.2)	24.3(3.5)	12.6(2.9)	0.0(0.0)
NAEP READING PROFICIENCY			321.1(6.3)	301.6(9.7)	288.1(14.0)	*****(0.0)
PROSE COMPREHENSION			320.6(6.7)	304.5(12.0)	296.7(7.6)	*****(0.0)
DOCUMENT			318.5(4.9)	309.5(8.8)	279.2(15.1)	*****(0.0)
QUANTITATIVE COMPUTATION			320.2(6.6)	304.6(7.9)	280.5(10.5)	*****(0.0)
UNEMPLOYED	117	402,744(14%)	64.3(7.8)	22.3(6.1)	13.4(7.4)	0.0(0.0)
NAEP READING PROFICIENCY			264.0(8.3)	257.2(15.9)	248.1(14.0)	*****(0.0)
PROSE COMPREHENSION			257.1(11.1)	248.3(18.5)	260.7(44.9)	*****(0.0)
DOCUMENT			250.9(8.9)	236.0(7.1)	235.9(19.5)	*****(0.0)
QUANTITATIVE COMPUTATION			262.7(9.2)	252.5(12.1)	246.9(19.0)	*****(0.0)
IN SCHOOL	161	851,851(20%)	72.1(4.3)	19.7(3.8)	8.3(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			320.1(7.4)	297.1(19.9)	294.6(12.5)	*****(0.0)
PROSE COMPREHENSION			314.2(5.9)	315.7(13.1)	303.4(29.7)	*****(0.0)
DOCUMENT			315.2(7.2)	312.7(13.0)	304.0(17.0)	*****(0.0)
QUANTITATIVE COMPUTATION			321.4(8.2)	320.5(11.5)	312.7(24.8)	*****(0.0)
KEEPING HOUSE	301	1,432,789(10%)	56.9(4.0)	23.3(3.3)	19.9(2.7)	0.0(0.0)
NAEP READING PROFICIENCY			281.1(6.2)	286.2(9.2)	256.9(8.9)	*****(0.0)
PROSE COMPREHENSION			276.8(6.1)	298.1(8.0)	265.5(10.3)	*****(0.0)
DOCUMENT			275.5(6.4)	291.9(6.3)	257.3(10.9)	*****(0.0)
QUANTITATIVE COMPUTATION			275.2(6.4)	291.6(10.5)	267.5(9.5)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 3 - SOCIETY, REVIEWS, HOROSCOPE

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
SPANISH SAMPLE	80	213,081(31%)	8.9(3.6)	11.8(5.1)	79.3(6.2)	0.0(0.0)
NAEP READING PROFICIENCY			182.8(20.2)	194.1(20.0)	154.6(10.8)	*****(0.0)
PROSE COMPREHENSION			169.5(13.2)	188.0(33.2)	151.1(10.0)	*****(0.0)
DOCUMENT			165.2(22.1)	179.0(24.3)	128.0(6.5)	*****(0.0)
QUANTITATIVE COMPUTATION			197.5(21.1)	175.4(17.2)	144.6(8.6)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	16.5(4.5)	44.5(9.5)	39.0(8.5)	0.0(0.0)
NAEP READING PROFICIENCY			174.7(16.0)	178.1(25.7)	155.7(19.8)	*****(0.0)
PROSE COMPREHENSION			161.1(17.9)	174.0(22.0)	152.1(15.7)	*****(0.0)
DOCUMENT			146.3(16.9)	156.8(15.4)	134.7(13.4)	*****(0.0)
QUANTITATIVE COMPUTATION			156.5(18.6)	158.8(27.5)	149.2(15.3)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 4 - COMICS, CLASSFIED, TV LIST, MOVIES

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE -- TOTAL --	3474	20,720,464(5%)	85.8(0.9)	4.2(0.6)	10.0(0.7)	0.0(0.0)
NAEP READING PROFICIENCY			308.5(2.1)	289.1(6.6)	281.7(4.4)	*****(0.0)
PROSE COMPREHENSION			308.4(2.1)	286.8(7.2)	283.6(4.6)	*****(0.0)
DOCUMENT			309.2(2.1)	284.1(5.7)	277.4(4.1)	*****(0.0)
QUANTITATIVE COMPUTATION			308.8(2.2)	284.7(6.4)	280.8(3.9)	*****(0.0)
SEX						
MALE	1544	10,054,793(6%)	85.1(1.4)	5.9(1.0)	9.0(1.0)	0.0(0.0)
NAEP READING PROFICIENCY			308.7(2.6)	288.1(10.1)	276.4(7.1)	*****(0.0)
PROSE COMPREHENSION			309.6(2.8)	285.2(8.5)	281.1(6.2)	*****(0.0)
DOCUMENT			310.7(2.9)	277.9(7.2)	272.6(6.7)	*****(0.0)
QUANTITATIVE COMPUTATION			309.7(3.0)	279.1(8.3)	276.7(6.0)	*****(0.0)
FEMALE	1930	10,665,671(6%)	86.6(0.9)	2.6(0.5)	10.8(0.9)	0.0(0.0)
NAEP READING PROFICIENCY			308.3(2.3)	291.3(6.1)	286.0(4.6)	*****(0.0)
PROSE COMPREHENSION			307.2(2.1)	290.4(11.8)	285.6(6.1)	*****(0.0)
DOCUMENT			307.9(2.0)	297.5(7.4)	281.1(5.2)	*****(0.0)
QUANTITATIVE COMPUTATION			308.0(2.3)	297.0(10.3)	284.1(4.8)	*****(0.0)
ETHNICITY/RACE						
WHITE	1997	16,018,109(6%)	86.0(1.1)	4.1(0.7)	10.0(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			317.3(2.1)	297.0(8.4)	289.7(5.2)	*****(0.0)
PROSE COMPREHENSION			317.7(1.9)	296.6(8.2)	293.4(5.0)	*****(0.0)
DOCUMENT			320.0(2.0)	293.3(7.3)	287.5(4.3)	*****(0.0)
QUANTITATIVE COMPUTATION			318.4(2.3)	293.1(7.8)	291.1(4.3)	*****(0.0)
BLACK	957	2,693,192(8%)	85.9(1.3)	4.2(1.0)	10.0(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			266.3(2.6)	252.8(10.9)	241.7(6.4)	*****(0.0)
PROSE COMPREHENSION			261.9(2.9)	242.5(11.5)	233.9(7.5)	*****(0.0)
DOCUMENT			259.4(2.9)	239.3(12.4)	230.9(7.5)	*****(0.0)
QUANTITATIVE COMPUTATION			262.8(2.4)	238.1(13.0)	236.0(6.7)	*****(0.0)
HISPANIC	391	1,264,984(12%)	83.6(2.0)	4.7(1.0)	11.7(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			289.7(5.1)	273.8(10.3)	270.1(9.7)	*****(0.0)
PROSE COMPREHENSION			289.3(4.7)	263.2(9.9)	267.3(10.8)	*****(0.0)
DOCUMENT			283.7(5.2)	262.2(14.1)	249.7(8.3)	*****(0.0)
QUANTITATIVE COMPUTATION			284.9(5.5)	267.3(9.6)	253.0(10.7)	*****(0.0)
OTHER	129	744,179(20%)	87.4(2.8)	6.0(2.5)	6.6(1.9)	0.0(0.0)
NAEP READING PROFICIENCY			301.5(10.1)	285.8(17.2)	278.1(12.6)	*****(0.0)
PROSE COMPREHENSION			307.2(6.6)	288.0(18.5)	284.4(18.6)	*****(0.0)
DOCUMENT			299.5(5.5)	292.2(14.9)	285.9(13.7)	*****(0.0)
QUANTITATIVE COMPUTATION			309.0(6.7)	304.1(13.1)	275.5(19.2)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 4 - COMICS, CLASSFIED, TV LIST, MOVIES

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
REGION						
NORTHEAST	679	4,448,158(10%)	88.1(2.1)	4.4(1.7)	7.4(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			313.1(3.8)	303.9(13.9)	288.0(12.1)	*****(0.0)
PROSE COMPREHENSION			313.8(3.1)	295.8(13.4)	288.3(12.5)	*****(0.0)
DOCUMENT			312.5(2.9)	286.8(15.4)	283.4(12.1)	*****(0.0)
QUANTITATIVE COMPUTATION			311.8(4.4)	289.8(12.0)	288.3(7.5)	*****(0.0)
SOUTHEAST	897	5,140,778(17%)	85.3(1.4)	3.2(0.7)	11.6(1.5)	0.0(0.0)
NAEP READING PROFICIENCY			296.5(3.3)	253.9(14.8)	266.1(4.8)	*****(0.0)
PROSE COMPREHENSION			295.0(6.0)	248.9(21.3)	263.4(11.1)	*****(0.0)
DOCUMENT			297.8(4.9)	250.3(23.7)	255.7(7.8)	*****(0.0)
QUANTITATIVE COMPUTATION			295.8(3.5)	250.1(20.9)	263.4(8.0)	*****(0.0)
CENTRAL	800	5,364,920(12%)	85.3(1.9)	4.4(1.0)	10.3(1.4)	0.0(0.0)
NAEP READING PROFICIENCY			311.5(3.7)	292.5(14.0)	279.9(10.1)	*****(0.0)
PROSE COMPREHENSION			312.8(3.9)	288.4(9.2)	289.3(6.6)	*****(0.0)
DOCUMENT			314.0(3.8)	294.0(6.6)	281.1(6.6)	*****(0.0)
QUANTITATIVE COMPUTATION			315.9(4.3)	296.6(9.6)	283.2(6.6)	*****(0.0)
WEST	1098	5,766,608(12%)	85.1(1.6)	4.8(1.0)	10.2(1.3)	0.0(0.0)
NAEP READING PROFICIENCY			312.7(5.1)	296.4(11.1)	295.8(6.1)	*****(0.0)
PROSE COMPREHENSION			312.0(4.4)	301.5(7.8)	296.1(10.2)	*****(0.0)
DOCUMENT			312.4(4.7)	293.6(6.1)	292.5(6.9)	*****(0.0)
QUANTITATIVE COMPUTATION			311.5(4.3)	291.4(11.7)	292.1(6.1)	*****(0.0)
EDUCATION LEVEL						
LESS THAN HIGH SCHOOL	77	374,926(22%)	55.2(7.2)	11.7(6.3)	33.1(8.0)	0.0(0.0)
NAEP READING PROFICIENCY			235.9(11.6)	234.1(12.7)	233.0(13.6)	*****(0.0)
PROSE COMPREHENSION			235.2(6.7)	215.8(11.6)	248.6(29.3)	*****(0.0)
DOCUMENT			227.8(6.7)	203.1(16.4)	229.1(32.1)	*****(0.0)
QUANTITATIVE COMPUTATION			236.2(12.8)	237.5(7.6)	231.8(19.8)	*****(0.0)
SOME HIGH SCHOOL	618	2,769,840(6%)	82.8(1.7)	3.5(0.8)	13.8(1.6)	0.0(0.0)
NAEP READING PROFICIENCY			264.2(4.0)	251.7(25.7)	256.5(7.3)	*****(0.0)
PROSE COMPREHENSION			266.6(4.4)	231.0(14.9)	248.4(6.3)	*****(0.0)
DOCUMENT			260.4(4.5)	222.6(14.9)	240.3(6.8)	*****(0.0)
QUANTITATIVE COMPUTATION			264.7(3.5)	220.7(24.7)	250.4(9.6)	*****(0.0)

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

PRACTICE # 4 - COMICS, CLASSFIED, TV LIST, MOVIES

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
ENGLISH SAMPLE (CONTINUED)						
EDUCATION LEVEL (CONTINUED)						
GRADUATED HIGH SCHOOL	1718	9,999,954(7%)	84.6(1.3)	3.7(0.8)	11.7(1.2)	0.0(0.0)
NAEP READING PROFICIENCY			298.6(1.8)	286.6(12.1)	282.4(4.2)	*****(0.0)
PROSE COMPREHENSION			297.3(2.1)	280.6(7.6)	285.4(5.4)	*****(0.0)
DOCUMENT			298.8(2.0)	274.3(5.5)	278.5(4.9)	*****(0.0)
QUANTITATIVE COMPUTATION			298.3(2.6)	282.0(7.4)	282.0(5.2)	*****(0.0)
COLLEGE DEGREE	1058	7,565,453(9%)	90.2(1.3)	4.8(0.8)	5.1(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			337.9(2.8)	308.8(9.9)	320.5(9.3)	*****(0.0)
PROSE COMPREHENSION			338.5(2.1)	317.1(9.6)	324.4(8.6)	*****(0.0)
DOCUMENT			341.1(2.1)	320.7(7.3)	326.5(5.6)	*****(0.0)
QUANTITATIVE COMPUTATION			338.9(2.0)	310.5(12.5)	323.3(7.5)	*****(0.0)
PARENTAL EDUCATION						
0 - 8 YEARS	357	1,424,884(11%)	73.8(3.0)	5.0(1.3)	21.2(3.0)	0.0(0.0)
NAEP READING PROFICIENCY			277.5(6.3)	268.8(12.7)	267.1(7.9)	*****(0.0)
PROSE COMPREHENSION			270.9(5.8)	251.6(9.8)	262.3(10.4)	*****(0.0)
DOCUMENT			275.3(6.7)	248.7(14.5)	242.9(8.1)	*****(0.0)
QUANTITATIVE COMPUTATION			271.8(5.2)	254.3(17.5)	255.5(7.9)	*****(0.0)
SOME H.S.	489	2,400,960(9%)	79.9(2.1)	4.9(1.4)	15.2(2.0)	0.0(0.0)
NAEP READING PROFICIENCY			275.9(3.7)	262.5(12.1)	256.0(8.2)	*****(0.0)
PROSE COMPREHENSION			274.9(4.2)	267.6(12.1)	262.4(9.6)	*****(0.0)
DOCUMENT			278.8(2.9)	262.2(13.3)	249.8(9.5)	*****(0.0)
QUANTITATIVE COMPUTATION			281.4(4.1)	262.8(13.3)	260.7(9.9)	*****(0.0)
GRADUATED H.S.	1537	9,736,634(6%)	86.8(1.3)	3.5(0.7)	9.6(1.1)	0.0(0.0)
NAEP READING PROFICIENCY			307.7(1.7)	284.2(12.4)	287.6(5.5)	*****(0.0)
PROSE COMPREHENSION			306.6(2.4)	287.6(11.2)	291.1(6.1)	*****(0.0)
DOCUMENT			306.7(2.4)	288.6(10.5)	286.8(5.1)	*****(0.0)
QUANTITATIVE COMPUTATION			305.2(1.9)	281.0(9.8)	291.1(5.4)	*****(0.0)
COLLEGE DEGREE	978	6,737,472(10%)	89.4(1.3)	4.9(1.1)	5.7(0.8)	0.0(0.0)
NAEP READING PROFICIENCY			328.9(3.6)	309.9(11.5)	309.3(7.5)	*****(0.0)
PROSE COMPREHENSION			331.8(2.5)	301.9(12.3)	310.8(9.5)	*****(0.0)
DOCUMENT			331.9(2.7)	297.2(11.4)	316.0(6.0)	*****(0.0)
QUANTITATIVE COMPUTATION			331.9(3.1)	305.8(12.5)	306.0(7.2)	*****(0.0)

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NAEP  -  1985 ADULT LITERACY  -  21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS  -  CONDITIONING VARIBLES


  PRACTICE # 4 - COMICS, CLASSFIED, TV LIST, MOVIES

                                N       WEIGHTED N         YES           NO          NO READ        NON RESP

ENGLISH SAMPLE (CONTINUED)
EMPLOYMENT STATUS
  FULL-TIME ALL YEAR          1474    9,571,878( 6%)    86.3( 1.3)    4.9( 1.1)    8.8( 1.0)    0.0( 0.0)

    NAEP READING PROFICIENCY                           306.1( 2.4)  281.3(13.3)  283.2( 5.5)  *****( 0.0)
    PROSE COMPREHENSION                                307.0( 2.6)  276.5( 8.3)  282.2( 6.9)  *****( 0.0)
    DOCUMENT                                           306.6( 2.1)  274.6( 8.6)  277.7( 5.4)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           305.5( 2.7)  273.3( 8.7)  280.1( 6.8)  *****( 0.0)

  PART-TIME ALL YEAR           479    2,816,437(12%)    86.9( 1.8)    4.6( 1.1)    8.4( 1.6)    0.0( 0.0)

    NAEP READING PROFICIENCY                           324.2( 4.4)  306.9(17.2)  296.6( 9.0)  *****( 0.0)
    PROSE COMPREHENSION                                324.2( 3.8)  304.9(13.3)  294.5(11.8)  *****( 0.0)
    DOCUMENT                                           328.8( 4.1)  305.4(11.9)  299.6( 8.0)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           326.0( 4.3)  309.0(11.5)  298.9( 9.2)  *****( 0.0)

  FULL-TIME PART OF YEAR       619    3,703,890( 6%)    88.8( 1.5)    2.4( 0.7)    8.8( 1.5)    0.0( 0.0)

    NAEP READING PROFICIENCY                           311.4( 3.8)  303.5(13.0)  289.2( 9.5)  *****( 0.0)
    PROSE COMPREHENSION                                309.4( 4.2)  309.4(16.1)  287.9( 9.2)  *****( 0.0)
    DOCUMENT                                           313.0( 3.6)  297.6(13.2)  281.2( 8.4)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           312.6( 3.8)  300.7(15.0)  283.3( 7.2)  *****( 0.0)

EMPLOYMENT STATUS (CONTINUED)
  PART-TIME PART OF YEAR       275    1,761,586(11%)    84.9( 3.1)    2.5( 1.1)   12.6( 2.9)    0.0( 0.0)

    NAEP READING PROFICIENCY                           316.6( 6.0)  285.1(23.4)  288.1(14.0)  *****( 0.0)
    PROSE COMPREHENSION                                316.6( 6.3)  302.0(29.2)  296.7( 7.6)  *****( 0.0)
    DOCUMENT                                           317.2( 4.6)  274.2(17.1)  279.2(15.1)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           317.2( 5.2)  272.0(21.0)  280.5(10.5)  *****( 0.0)

  UNEMPLOYED                   117      402,744(14%)    83.5( 7.5)    3.1( 1.7)   13.4( 7.4)    0.0( 0.0)

    NAEP READING PROFICIENCY                           263.0( 7.3)  240.1( 7.2)  248.1(14.0)  *****( 0.0)
    PROSE COMPREHENSION                                255.2(10.1)  245.1(24.3)  260.7(44.9)  *****( 0.0)
    DOCUMENT                                           248.4( 7.3)  209.9(14.7)  235.9(19.5)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           260.9( 8.5)  237.6(27.5)  246.9(19.0)  *****( 0.0)

  IN SCHOOL                    161      851,851(20%)    79.7( 4.4)   12.1( 4.1)    8.3( 2.0)    0.0( 0.0)

    NAEP READING PROFICIENCY                           316.6( 9.3)  305.6(10.1)  294.6(12.5)  *****( 0.0)
    PROSE COMPREHENSION                                317.0( 6.5)  298.3(22.1)  303.4(29.7)  *****( 0.0)
    DOCUMENT                                           315.1( 7.0)  311.7(15.4)  304.0(17.0)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           322.6( 7.2)  312.0(20.3)  312.7(24.8)  *****( 0.0)

  KEEPING HOUSE                301    1,432,789(10%)    78.9( 2.8)    1.3( 0.7)   19.9( 2.7)    0.0( 0.0)

    NAEP READING PROFICIENCY                           283.0( 5.4)  253.2(24.5)  256.9( 8.9)  *****( 0.0)
    PROSE COMPREHENSION                                283.6( 4.9)  245.7(27.3)  265.5(10.3)  *****( 0.0)
    DOCUMENT                                           281.0( 5.5)  233.8(24.6)  257.3(10.9)  *****( 0.0)
    QUANTITATIVE COMPUTATION                           280.6( 6.3)  239.4(30.0)  267.5( 9.5)  *****( 0.0)
```

NAEP - 1985 ADULT LITERACY - 21 TO 25 YEAR OLDS
WEIGHTED RESPONSE PERCENTAGES AND PLAUSIBLE VALUE MEANS - CONDITIONING VARIBLES

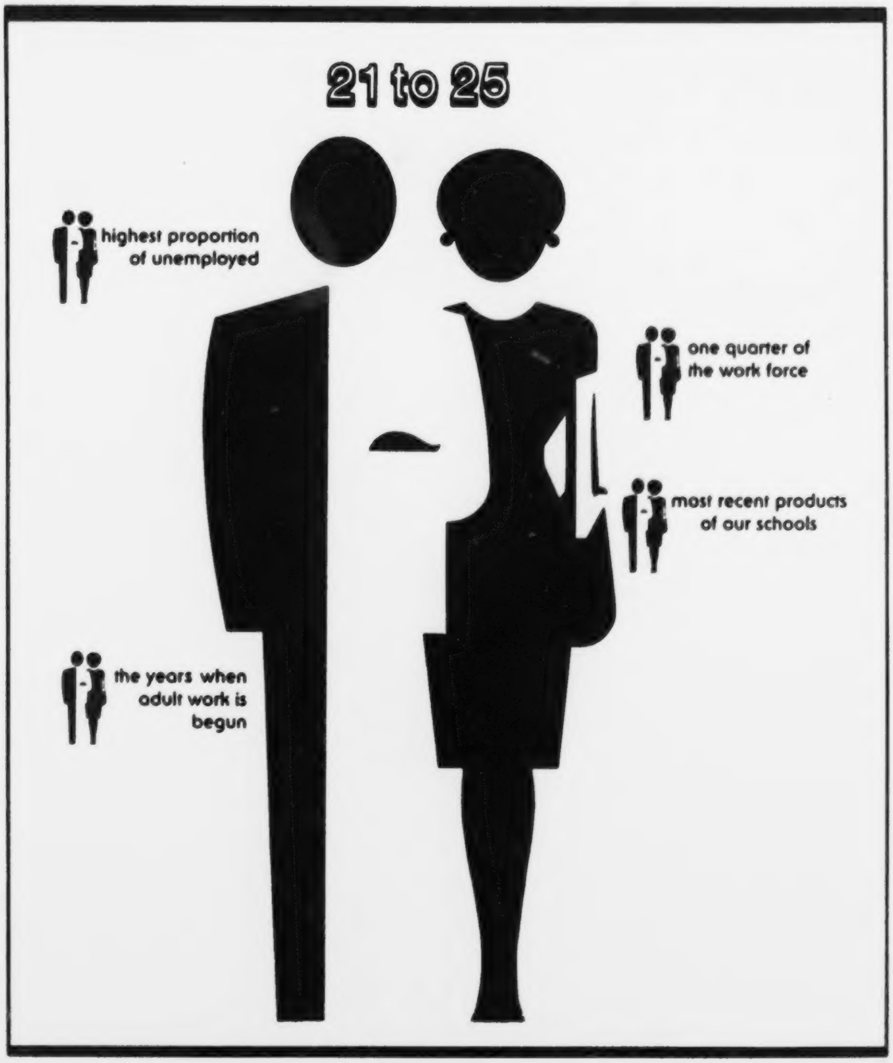
PRACTICE # 4 - COMICS, CLASSFIED, TV LIST, MOVIES

	N	WEIGHTED N	YES	NO	NO READ	NON RESP
SPANISH SAMPLE	80	213,081(31%)	18.0(5.7)	2.7(1.6)	79.3(6.2)	0.0(0.0)
NAEP READING PROFICIENCY			189.6(12.9)	187.1(67.8)	154.6(10.8)	*****(0.0)
PROSE COMPREHENSION			184.7(20.7)	149.6(66.1)	151.1(10.0)	*****(0.0)
DOCUMENT			178.2(22.0)	139.3(11.4)	128.0(6.5)	*****(0.0)
QUANTITATIVE COMPUTATION			194.8(14.6)	120.4(20.7)	144.6(8.6)	*****(0.0)
ENGLISH WHO FAILED CORE	64	224,799(19%)	54.9(9.1)	6.1(3.7)	39.0(8.5)	0.0(0.0)
NAEP READING PROFICIENCY			180.0(23.2)	151.6(18.9)	155.7(19.8)	*****(0.0)
PROSE COMPREHENSION			170.6(17.3)	169.3(22.6)	152.1(15.7)	*****(0.0)
DOCUMENT			156.4(12.6)	132.1(26.5)	134.7(13.4)	*****(0.0)
QUANTITATIVE COMPUTATION			159.0(24.6)	151.0(17.6)	149.2(15.3)	*****(0.0)

NOTE: THE ABOVE TOTALS HAVE BEEN INFLATED TO CORRESPOND TO THE CPS.
FOR IMPLICATIONS SEE THE TECHNICAL APPENDIX.

APPENDIX D

Background and Attitude Questionnaire 1985


21 to 25
highest proportion of unemployed
one quarter of the work force
most recent products of our schools
the years when adult work is begun

Profiles of Literacy An Assessment of Young Adults

naep
National Assessment of Educational Progress
ETS

A Project of the National Institute of Education ■ OMB No. 1850-0562 ■ Approval Expires 9/85

This report is authorized by law (20 U.S.C. 1221 e-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

LOCATION NUMBER: ______________________

RAC 4647
010985

HOUSING UNIT NUMBER: ___________________

RESPONDENT NUMBER: ____________________

TIME INTERVIEW BEGAN: __________________

YOUNG ADULT LITERACY ASSESSMENT

BACKGROUND AND ACTIVITY QUESTIONNAIRE

Hello, I'm __________________ from Response Analysis Corporation of Princeton, New Jersey. You were selected to participate in a survey we are conducting for the Center for the Assessment of Educational Progress. This survey is being conducted in many areas throughout the country. Its purpose is to collect information about the reading and writing experiences, activities, and skills of America's young adults. Information obtained from this study will be used by teachers, researchers, and others to assist in planning future educational programs.

It is important for you to understand that your participation in this study is completely voluntary. The survey will last approximately 90 minutes. You will be paid $15 if you complete the survey. All of your answers will be kept strictly confidential. All information will be reported for a whole group, and your answers will not be linked to your name.

Before we begin, do you have any questions about this study that I might answer?

(PAUSE TO GIVE RESPONDENT A CHANCE TO ASK QUESTIONS.)

INTERVIEWER RECORD, FROM OBSERVATION, RESPONDENT'S RACE/ETHNICITY:

1. WHITE, NOT OF HISPANIC HERITAGE
2. BLACK, NOT OF HISPANIC HERITAGE
3. HISPANIC HERITAGE, REGARDLESS OF RACE
4. AMERICAN INDIAN OR ALASKAN NATIVE
5. ASIAN OR PACIFIC ISLANDER
6. UNCLASSIFIED, BUT NOT OF HISPANIC HERITAGE

HAND RESPONDENT CARD A

1. First, I'd like to ask you a few questions about your free time. I am going to read you a list of activities. As I read each item, tell me if you do it daily, weekly, every month, a couple times a year, or never. Do you . . . ?

	DAILY	WEEKLY	EVERY MONTH	ONCE OR TWICE A YEAR	NEVER
a. Go out to a movie, play, concert, sporting event, or other similar event	1	2	3	4	5
b. Spend time socializing with friends or relatives	1	2	3	4	5
c. Spend time pursuing a hobby	1	2	3	4	5
d. Do physical fitness activities (working out, jogging, sports)	1	2	3	4	5
e. Read newspapers, magazines, books, etc.	1	2	3	4	5
f. Write letters, diaries, notes, etc.	1	2	3	4	5
g. Participate in community activities	1	2	3	4	5

2. How many hours do you usually spend watching television each day?

1 NONE
2 1 HOUR OR LESS
3 2 HOURS
4 3 HOURS
5 4 HOURS
6 5 HOURS
7 6 OR MORE HOURS

Now I'd like to ask you some questions about yourself and when you were growing up.

3. In what month and year were you born?

MONTH:
1 JANUARY
2 FEBRUARY
3 MARCH
4 APRIL
5 MAY
6 JUNE
7 JULY
8 AUGUST
9 SEPTEMBER
10 OCTOBER
11 NOVEMBER
12 DECEMBER

YEAR:
1 1959
2 1960
3 1961
4 1962
5 1963
6 1964
7 1967
8 1968

INTERVIEWER: IF RESPONDENT DOES NOT FALL INTO THESE CATEGORIES, RECONFIRM AGE. IF RESPONDENT IS NEITHER AGE 21 - 25 NOR AGE 17, THANK AND TERMINATE.

4. In what country were you born?

RECORD COUNTRY: ____________________

IF USA ON Q. 4, ASK:

5. In what state or territory?

RECORD STATE OR TERRITORY: ____________________

IF NOT BORN IN USA (50 STATES), ASK:

6. How many years have you lived in the USA (50 states)? RECORD NUMBER OF YEARS ________

7. Did you attend school before coming to the USA (50 states)?

1 YES
2 NO -- SKIP TO Q. 9

IF "YES" ON Q. 7, ASK:

8. What was the highest grade in school you completed before coming to the USA (50 states)? (DO NOT READ LIST.)

1 PRIMARY (GRADES K-3)
2 ELEMENTARY (GRADES 4-8)
3 SECONDARY (GRADES 9-12)
4 VOCATIONAL
5 COLLEGE/UNIVERSITY

ASK EVERYONE

9. When you were growing up, what language or languages were usually spoken in your home? (CIRCLE ALL THAT APPLY.)

1 ENGLISH -- GO TO Q. 11
2 SPANISH
3 OTHER (SPECIFY): ____________________

IF "2" OR "3" ON Q. 9, ASK:

10. Who in the household usually spoke in the language (languages) other than English? (DO NOT READ LIST. CIRCLE ALL THAT APPLY.)

1 FATHER (STEPFATHER OR MALE GUARDIAN)
2 MOTHER (STEPMOTHER OR FEMALE GUARDIAN)
3 BROTHERS OR SISTERS
4 RELATIVES (GRANDPARENTS, AUNTS, UNCLES, ETC.)
5 NON-RELATIVES
6 RESPONDENT

11. When you were growing up, were any of the materials in your home written in a language other than English?

1 YES
2 NO -- GO TO Q. 14

IF "YES" ON Q. 11, ASK:

12. What kinds of materials were written in languages other than English? (READ LIST. CIRCLE ALL THAT APPLY.)

1 Newspapers
2 Magazines
3 Books
4 Notes or Letters
5 OTHER (SPECIFY):____________________

13. In what language or languages were these materials written?

RECORD LANGUAGE(S):____________________________

14. What languages did you learn before you started school? (CIRCLE ALL THAT APPLY.)

1 ENGLISH
2 SPANISH
3 OTHER (SPECIFY): ____________________

____

INTERVIEWER, PLEASE PROBE: Did you learn any other languages before you started school? (RECORD OTHER LANGUAGES, IF ANY, ABOVE.)

INTERVIEWER: IF ENGLISH ONLY ON Q. 14, GO TO Q. 30.

IF MORE THAN ONE LANGUAGE MENTIONED IN Q. 14, ASK:

15. How old were you when you learned to speak English? (DO NOT READ LIST.)

1 1-4 YEARS
2 5-10 YEARS
3 11-15 YEARS
4 16-20 YEARS
5 21 OR OLDER
6 DOES NOT SPEAK ENGLISH

16. In general, which language do you speak most often now?

RECORD LANGUAGE:____________________

17. Do you speak any other language often?

1 YES
2 NO

IF "YES" ON Q. 17, ASK:

18. What other language do you speak often?

RECORD LANGUAGE:________________________

IF ANY NON-ENGLISH LANGUAGE MENTIONED IN Q. 14, ASK:

INTERVIEWER: Qs. 19 THROUGH 22 REFER TO RESPONDENT'S SINGLE OR MAIN NON-ENGLISH LANGUAGE. IF ONLY ONE NON-ENGLISH LANGUAGE IN Q. 14, REFER TO THAT LANGUAGE. IF MORE THAN ONE NON-ENGLISH LANGUAGE, REFER TO THE NON-ENGLISH LANGUAGE IN Q. 16 OR 18. IF IN DOUBT, ASK RESPONDENT WHICH IS HIS OR HER MAIN NON-ENGLISH LANGUAGE.

RECORD SINGLE OR MAIN NON-ENGLISH LANGUAGE:________________

____

HAND RESPONDENT CARD A

19. How often do you currently speak (SINGLE OR MAIN NON-ENGLISH LANGUAGE)?

1 DAILY
2 WEEKLY
3 EVERY MONTH
4 ONCE OR TWICE A YEAR -- GO TO Q. 21
5 NEVER

IF USE LANGUAGE DAILY OR WEEKLY, ASK:

HAND RESPONDENT CARD B

20. What language do you use in each of the following situations?

	ALWAYS ENGLISH	MORE ENGLISH THAN OTHER	ENGLISH AND OTHER EQUALLY	MORE OTHER THAN ENGLISH	ALWAYS OTHER
a. At home	1	2	3	4	5
b. At work	1	2	3	4	5
c. While shopping in your neighborhood	1	2	3	4	5
d. When visiting friends or relatives	1	2	3	4	5

IF ANY NON-ENGLISH LANGUAGE ON Q. 14, CONT.

HAND RESPONDENT CARD C

21. With regard to (SINGLE OR MAIN NON-ENGLISH LANGUAGE), how well do you . . . ?

	VERY WELL	WELL	NOT WELL	NOT AT ALL
a. Understand it when it is spoken to you?	1	2	3	4
b. Speak it?	1	2	3	4
c. Read it?	1	2	3	4
d. Write it?	1	2	3	4

HAND REPONDENT CARD A

22. With regard to (SINGLE OR MAIN NON-ENGLISH LANGUAGE), how often do each of the following things happen?

	DAILY	WEEKLY	EVERY MONTH	ONCE OR TWICE A YEAR	NEVER
a. You listen to a radio program in (LANGUAGE)	1	2	3	4	5
b. You listen to tapes or records in (LANGUAGE)	1	2	3	4	5
c. You watch a television program in (LANGUAGE)	1	2	3	4	5
d. You read a newspaper, magazine, or book in (LANGUAGE)	1	2	3	4	5
e. You write something, for example a memo, note, or letter in (LANGUAGE)	1	2	3	4	5

IF ANY NON-ENGLISH LANGUAGE ON Q. 14, CONT:

23. Have you ever taken a course or class in ESL (English as a Second Language)?	1 YES 2 NO -- GO TO Q. 29

IF "YES" ON Q. 23, ASK:

24. Did you study how to . . . ?

a. Read and write English	1 YES 2 NO
b. Speak and understand English	1 YES 2 NO
25. What grade were you in when you took this course?	1 K-6 2 7-9 3 10-12 4 ADULT EDUCATION 5 COMMUNITY COLLEGE
26. Did you complete this course?	1 YES 2 NO

27. Have you ever taken a course other than ESL to help you learn English that was designed especially for people who did not learn English as their first language?

1 YES
2 NO -- GO TO Q. 29

IF "YES" ON Q. 27, ASK:

28. What were those courses called?

HAND RESPONDENT CARD C

29. With regard to English, how well do you feel you . . . ?

	VERY WELL	WELL	NOT WELL	NOT AT ALL
a. Understand it when it is spoken to you?	1	2	3	4
b. Speak it?	1	2	3	4
c. Read it?	1	2	3	4
d. Write it?	1	2	3	4

ASK EVERYONE

30. Are you currently enrolled in school or taking any classes?

1 YES
2 NO -- SKIP TO Q. 33

IF "YES," ASK:

31. Are you considered to be a full-time or part-time student?

1 FULL-TIME STUDENT
2 PART-TIME STUDENT

32. What diplomas, certificates, or licenses do you expect to earn in school?

1 HIGH SCHOOL EQUIVALENCY
2 VOCATIONAL, TRADE, OR BUSINESS
3 TWO YEARS OF COLLEGE (ASSOCIATE'S DEGREE)
4 FOUR- OR FIVE-YEAR COLLEGE DEGREE (B.A.)
5 MASTER'S, Ph.D., M.D., OR OTHER ADVANCED DEGREE
6 OTHER (SPECIFY): ______________________________
7 NONE

COMMENTS:

33. What was the last grade of public or private school you have completed? (DO NOT READ LIST.)

1 LESS THAN HIGH SCHOOL (0-8 YEARS)
2 SOME HIGH SCHOOL (9-12 BUT DID NOT COMPLETE 12TH GRADE) -- ASK Q. 34

3 HIGH SCHOOL GRADUATE (12 YEARS; ACCELERATED OR EARLY GRADUATE PROGRAM)
4 ATTENDED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL AFTER HIGH SCHOOL
5 COLLEGE: LESS THAN TWO YEARS
6 COLLEGE: ASSOCIATE'S DEGREE (A.A.) -- SKIP TO Q. 37
7 COLLEGE: TWO YEARS OR MORE, NO DEGREE
8 COLLEGE GRADUATE (B.S. OR B.A.)
9 POSTGRADUATE/NO DEGREE
10 POSTGRADUATE/DEGREE (M.S., M.A., Ph.D., M.D., ETC.)
11 DON'T KNOW

(IF NOT CLEAR, PROBE: Are you a high school graduate?)

IF "1" OR "2" IN Q. 33, ASK:

34. What were the main reasons you stopped your schooling when you did?

35. Have you ever studied for a GED or high school equivalency certificate?
1 YES
2 NO

IF "YES" ON Q. 35, ASK:

36. Did you receive that certificate?
1 YES
2 NO

IF HIGH SCHOOL GRADUATE OR HIGHER IN Q. 33, ASK:

37. How would you classify the primary emphasis of your high school courses? (READ LIST.)

1 General only
2 Vocational, technical, or trade
3 College preparatory

ASK EVERYONE

38. Are you currently or have you served in the armed forces?

1 YES
2 NO -- GO TO Q. 41

IF "YES" ON Q. 38, ASK:

39. In what military occupations have you completed training?

X NONE

40. In addition, have you received any training in reading and writing (BASIC SKILLS) while in the military?

1 YES
2 NO

HAND RESPONDENT CARD D

41. Not counting your elementary, high school, or college education or military training, have you received any of the following types of training? (CIRCLE ALL THAT APPLY.)

	(Q. 41)	Q. 42 LENGTH OF TRAINING	Q. 43 SELF	EMPLOYER	GOVERNMENT	FREE	OTHER
1	Vocational, trade, secretarial school, apprenticeship	________	1	2	3	4	5
2	Adult Basic Education	________	1	2	3	4	5
3	Professional licensing course or program (real estate, insurance, stock-brokerage, nursing)	________	1	2	3	4	5
4	Volunteer Tutor Program	________	1	2	3	4	5
5	Career or professional development seminars	________	1	2	3	4	5
6	OTHER:________________	________	1	2	3	4	5
7	NONE						

FOR EACH CIRCLED, ASK:

42. How long were you in that program? (SPECIFY NUMBER OF WEEKS)

43. Who paid for this training -- you, your employer, the government, or was it free?

Now, I'd like to ask you some questions about your family and when you were growing up.

44. In what country was your mother (stepmother or female guardian) born?

RECORD COUNTRY: ________________________

X NO FEMALE GUARDIAN -- SKIP TO Q. 53

IF "USA" ON Q. 44, ASK:

45. In what state or territory was your mother (stepmother or female guardian) born?

RECORD STATE OR TERRITORY: ____________________

IF MOTHER (STEPMOTHER, ETC.) NOT BORN IN USA (50 STATES), ASK:

46. How old was she when she moved to the USA (50 states)? (ENTER AGE BELOW.)

1 ENTER AGE: __________
2 SHE DID NOT MOVE TO USA
3 DON'T KNOW

47. In what year was your mother (stepmother or female guardian) born? RECORD YEAR: ________

PROBE: About how old is she? X DON'T KNOW

48. What was the highest grade your mother (stepmother or female guardian) completed in school? (DO NOT READ CATEGORIES.)

1 LESS THAN HIGH SCHOOL (0-8 YEARS)
2 SOME HIGH SCHOOL (9-12 BUT DID NOT COMPLETE 12TH GRADE)
3 HIGH SCHOOL GRADUATE (12 YEARS; ACCELERATED OR EARLY GRADUATE PROGRAM)
4 ATTENDED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL AFTER HIGH SCHOOL
5 COLLEGE: LESS THAN TWO YEARS
6 COLLEGE: ASSOCIATE'S DEGREE (A.A.)
7 COLLEGE: TWO YEARS OR MORE, NO DEGREE
8 COLLEGE GRADUATE (B.S. OR B.A.)
9 POSTGRADUATE/NO DEGREE
10 POSTGRADUATE/DEGREE (M.S., M.A., Ph.D., M.D., ETC.)
11 DON'T KNOW

49. I'd like to know about any work for pay that your mother (stepmother or guardian) did while you were in high school? Did she work part-time, full-time, or didn't she work?

1 WORKED PART-TIME (LESS THAN 35 HOURS PER WEEK)
2 WORKED FULL-TIME (35 HOURS OR MORE PER WEEK)
3 DID NOT WORK
4 DON'T KNOW
5 DIDN'T HAVE A MOTHER (FEMALE GUARDIAN) WHEN IN HIGH SCHOOL -- GO TO Q. 51

IF MOTHER WORKED, ASK:

50. What kind of work did she do when you were in high school? (DESCRIBE JOB.)

51. Does your mother (stepmother, female guardian) do any work for pay now? Does she work part-time, full-time, or doesn't she work?

1 WORKS PART-TIME (LESS THAN 35 HOURS PER WEEK)
2 WORKS FULL-TIME (35 HOURS OR MORE PER WEEK)
3 DOESN'T WORK
4 DON'T KNOW
5 DON'T HAVE A MOTHER (STEPMOTHER, ETC.) NOW -- GO TO Q. 53

IF MOTHER WORKS, ASK:

52. What kind of work does she do now? (DESCRIBE JOB.)

ASK EVERYONE

53. In what country was your father (stepfather or male guardian) born?

RECORD COUNTRY: ____________________

X NO MALE GUARDIAN -- SKIP TO Q. 62

IF "USA" ON Q. 53, ASK:

54. In what state or territory was your father (stepfather or male guardian) born?

RECORD STATE OR TERRITORY: ____________________

IF FATHER NOT BORN IN USA (50 STATES), ASK:

55. How old was he when he moved to the USA (50 STATES)? (ENTER AGE BELOW.)

1 ENTER AGE: __________
2 HE DID NOT MOVE TO USA
3 DON'T KNOW

56. In what year was your father (stepfather or male guardian) born? RECORD YEAR: ________

PROBE: About how old is he? X DON'T KNOW

57. What was the highest grade your father (stepfather or male guardian) completed in school? (DO NOT READ CATEGORIES.)

1 LESS THAN HIGH SCHOOL (0-8 YEARS)
2 SOME HIGH SCHOOL (9-12 BUT DID NOT COMPLETE 12TH GRADE)
3 HIGH SCHOOL GRADUATE (12 YEARS; ACCELERATED OR EARLY GRADUATE PROGRAM)
4 ATTENDED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL AFTER HIGH SCHOOL
5 COLLEGE: LESS THAN TWO YEARS
6 COLLEGE: ASSOCIATE'S DEGREE (A.A.)
7 COLLEGE: TWO YEARS OR MORE, NO DEGREE
8 COLLEGE GRADUATE (B.S. OR B.A.)
9 POSTGRADUATE/NO DEGREE
10 POSTGRADUATE/DEGREE (M.S., M.A., Ph.D., M.D., ETC.)
11 DON'T KNOW

58. I'd like to know about any work for pay that your father (stepfather or guardian) did while you were in high school. Did he work part-time, full-time, or didn't he work? (DO NOT READ LIST.)

1 WORKED PART-TIME (LESS THAN 35 HOURS PER WEEK)
2 WORKED FULL-TIME (35 OR MORE HOURS PER WEEK)
3 DID NOT WORK
4 DON'T KNOW
5 DIDN'T HAVE A FATHER (MALE GUARDIAN) WHEN IN HIGH SCHOOL

-- GO TO Q. 60 (for 3, 4, 5)

IF FATHER WORKED, ASK:

59. What kind of work did he do when you were in high school? (DESCRIBE JOB.)

60. Does your father (stepfather, male guardian) do any work for pay now? Does he work part-time, full-time, or doesn't he work?

1 WORKS PART-TIME (LESS THAN 35 HOURS PER WEEK)
2 WORKS FULL-TIME (35 OR MORE HOURS PER WEEK)
3 DOESN'T WORK
4 DON'T KNOW
5 DON'T HAVE A FATHER (STEPFATHER, ETC., NOW)

-- GO TO Q. 62 (for 3, 4, 5)

IF FATHER WORKS, ASK:

61. What kind of work does he do now? (DESCRIBE JOB.)

ASK EVERYONE

62. Which of the following did you have in your home while you were in high school? (READ LIST.)

	YES	NO	DON'T KNOW
A daily or weekly newspaper	1	2	X
Magazines	1	2	X
More than 25 books in the home	1	2	X
An encyclopedia	1	2	X
A dictionary	1	2	X
A personal computer (that is, something with a keyboard and a screen)	1	2	X

Now, I'd like to ask you some questions about your everyday life.

HAND RESPONDENT CARD E

63. Here is a list of clubs and organizations that people might belong to. Please tell me what types, if any, of organizations or clubs you currently belong to. (CIRCLE ALL MENTIONS.)

1 COMMUNITY SERVICE
2 RELIGIOUS
3 LABOR UNIONS
4 PROFESSIONAL (ACADEMIC)
5 POLITICAL
6 SPORTS
7 OTHER (SPECIFY): ______________________
8 NONE

64. Have you ever voted in a public election in the United States?

1 YES
2 NO -- GO TO Q. 67

IF EVER VOTED, ASK:

65. When was the last time you voted? RECORD YEAR: ______________

66. What type of election was that? (READ CATEGORIES ONLY IF NECESSARY. INCLUDE PRIMARIES.)

1 NATIONAL (Presidential, Senate, Congressional)
2 STATE (Governor, State Legislature)
3 LOCAL (Mayor, Town or City Council)
4 OTHER (Referendum, Bond Approval)

67. Are you currently registered to vote?
1 YES -- GO TO Q. 69
2 NO

IF NOT REGISTERED, ASK:

68. Are you eligible to register to vote in the United States?
1 YES
2 NO

69. Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs most of the time, some of the time, only now and then, or hardly at all?

1 MOST OF THE TIME
2 SOME OF THE TIME
3 ONLY NOW AND THEN
4 HARDLY AT ALL

Now I'd like to ask you some questions about your main occupation during the past 12 months.

70. Have you been employed during the past 12 months?
1 YES -- SKIP TO Q. 73
2 NO

IF "NO" IN Q. 70, ASK:

71. Were you . . .

1 Unemployed, laid off, looking for work
2 In school
3 Keeping house
4 OTHER (SPECIFY): ______________________________

72. Have you ever had a full-time or part-time job?

1 YES, FULL-TIME (35 HOURS PER WEEK OR MORE) -- SKIP TO Q. 78
2 YES, PART-TIME (LESS THAN 35 HOURS PER WEEK) -- SKIP TO Q. 78
3 NO -- SKIP TO Q. 85

IF "YES" ON Q. 70, ASK:

HAND RESPONDENT CARD F

73. Which of the statements on this card would best describe your working schedule during the past 12 months? (RECORD THE ONE ANSWER THAT BEST DESCRIBES THE MAJORITY OF TIME WORKING IN THE PAST TWELVE MONTHS.)

1 FULL-TIME WORK ALL YEAR
2 PART-TIME WORK ALL YEAR
3 FULL-TIME WHEN WORKING, BUT DIDN'T WORK ALL YEAR
4 PART-TIME WHEN WORKING, BUT DIDN'T WORK ALL YEAR -- SKIP TO Q. 75

IF "1" OR "2" ON Q. 73, ASK:

74. How many hours per week did you work? ________ HOURS

IF "3" OR "4" IN Q. 73, ASK:

75. Approximately how many months did you work? ________ MONTHS

76. Approximately how many hours per week when you were working? ________ HOURS

77. What was your hourly wage including tips and commissions before any deductions? HOURLY WAGE: __________

IF WORK NOW OR EVER WORKED, ASK:

78. What kind of work do (did) you normally do, that is, what is (was) your main job called?

RECORD OCCUPATION: ______________________________

79. What kind of place do (did) you work for? (PROBE: WHAT INDUSTRY IS THAT?)

RECORD INDUSTRY: ______________________________

80. (Are/Were) you self-employed or (do/did) you work for someone else?

1 SELF-EMPLOYED
2 WORK FOR SOMEONE ELSE

81. (Do/Did) you have to read in English for your (current) job?

1 YES
2 NO

82. (Do/Did) you have to write in English for your (current) job?

1 YES
2 NO

83. (Do/Did) you feel your reading skills (are/were) good enough for your (current) job?

1 YES
2 NO
3 DON'T KNOW

84. (Do/Did) you feel your writing skills (are/were) good enough for your (current) job?

1 YES
2 NO
3 DON'T KNOW

ASK EVERYONE

85. Do you think you could get a better job if you received additional training in reading or writing English?

1 YES
2 NO -- GO TO Q. 89

IF "YES," ASK:

86. Do you expect to get additional training to improve your reading skills?

1 YES -- GO TO Q. 88
2 NO

IF "NO," ASK:

87. Why not?

IF "YES," ASK:

88. Who would be likely to pay for this training?

1 YOU
2 YOUR EMPLOYER
3 THE GOVERNMENT
4 IT WOULD BE FREE
5 OTHER (SPECIFY): ______________________

____

89. How would you rate your elementary and high school training in terms of preparing you for the kinds of reading and writing tasks you need to do? Would you say that your elementary school training was excellent, good, fair, or poor?

How would you rate your high school training?

ELEMENTARY SCHOOL	HIGH SCHOOL
1 EXCELLENT	1 EXCELLENT
2 GOOD	2 GOOD
3 FAIR	3 FAIR
4 POOR	4 POOR
5 UNSURE	5 UNSURE

HAND RESPONDENT CARD A

90. How frequently do family members or friends help you with . . . ? (READ ACTIVITIES.)

	DAILY	WEEKLY	EVERY MONTH	ONCE OR TWICE A YEAR	NEVER
a. Filling out forms	1	2	3	4	5
b. Reading/explaining newspaper articles or other written information	1	2	3	4	5
c. Dealing with government agencies, public companies, business, medical personnel, etc.	1	2	3	4	5
d. Writing notes and letters	1	2	3	4	5

GO TO Q. 94

IF RELY ON SOMEONE TO DO ANY OF THESE TASKS, ASK:

91. Do you always rely on the same person?

1 YES
2 NO -- GO TO Q. 94

IF "YES," ASK:

92. Who is that person? (READ CATEGORIES.)

1 A family member or relative
2 A friend
3 Someone you work with
4 A teacher
5 A member of the clergy
6 Someone else (SPECIFY): ____________________

____

93. Why do you rely on that person?

ASK EVERYONE

94. Has anything happened to you recently that made you wish you could read and understand something in English that you couldn't?

1 YES
2 NO -- GO TO Q. 96

IF "YES," ASK:

95. What happened?

96. Is there anything you would like to write in English but can't?

1 YES
2 NO -- GO TO Q. 98

IF "YES," ASK:

97. What is that?

HAND RESPONDENT CARD G

98. Before you were 18 years old, did you ever have any of these conditions? (CIRCLE ALL THAT APPLY.)

	Q. 98 BEFORE AGE 18	Q. 99 NOW
LEARNING DISABILITY	1	1
EYE TROUBLE (NOT CORRECTED BY GLASSES)	2	2
HEARING PROBLEM/DEAFNESS	3	3
SPEECH DISABILITY	4	4
PHYSICAL DISABILITY	5	5
LONG-TERM ILLNESS (6 MONTHS OR MORE)	6	6
NONE	7	7

99. Which of these, if any, do you have now?

100. Who currently lives in this household with you? (DO NOT READ LIST. CIRCLE ALL THAT APPLY.)

1 FATHER (STEPFATHER OR MALE GUARDIAN)
2 MOTHER (STEPMOTHER OR FEMALE GUARDIAN)
3 BROTHER(S) OR SISTER(S)
4 WIFE (HUSBAND)
5 CHILDREN
6 OTHER RELATIVES (GRANDPARENTS, AUNTS, UNCLES, ETC.)
7 NONRELATIVES
8 LIVE ALONE -- GO TO Q. 105

101. How many people live in this household including yourself? ____________ NUMBER

102. How many people in this household, including yourself, are 18 years old and over? ____________ NUMBER

103. How many people in this household are employed . . .

Full-time? ____________

Part-time? ____________

HAND RESPONDENT CARD H

104. For statistical purposes, what is your best estimate of your total household income from all sources for 1984?

1 UNDER $5,000
2 $5,000 - $9,999
3 $10,000 - $14,999
4 $15,000 - $19,999
5 $20,000 - $29,999
6 $30,000 - $39,999
7 $40,000 - $49,999
8 $50,000 AND OVER
9 REFUSED
10 DON'T KNOW

105. What is your best estimate of your personal income from all sources for 1984?

1 UNDER $5,000
2 $5,000 - $9,999
3 $10,000 - $14,999
4 $15,000 - $19,999
5 $20,000 - $29,999
6 $30,000 - $39,999
7 $40,000 - $49,999
8 $50,000 AND OVER
9 REFUSED
10 DON'T KNOW
11 NO PERSONAL INCOME

HAND RESPONDENT CARD I

106. Which of the groups on this card best describes you?

1 WHITE
2 BLACK
3 AMERICAN INDIAN, ALASKAN NATIVE
4 ASIAN, PACIFIC ISLANDER
5 OTHER (SPECIFY): ______________________________

____

107. Are you of Spanish or Hispanic origin or descent?
1 YES
2 NO -- GO TO Q. 109

IF HISPANIC, ASK:

HAND RESPONDENT CARD J

108. Which of these descriptions best describes your Hispanic origin?

1 MEXICAN/MEXICAN-AMERICAN, CHICANO
2 PUERTO RICAN
3 CUBAN
4 CENTRAL/SOUTH AMERICAN
5 OTHER SPANISH/HISPANIC

100. Who currently lives in this household with you? (DO NOT READ LIST. CIRCLE ALL THAT APPLY.)

1 FATHER (STEPFATHER OR MALE GUARDIAN)
2 MOTHER (STEPMOTHER OR FEMALE GUARDIAN)
3 BROTHER(S) OR SISTER(S)
4 WIFE (HUSBAND)
5 CHILDREN
6 OTHER RELATIVES (GRANDPARENTS, AUNTS, UNCLES, ETC.)
7 NONRELATIVES
8 LIVE ALONE -- GO TO Q. 105

101. How many people live in this household including yourself? ____________ NUMBER

102. How many people in this household, including yourself, are 18 years old and over? ____________ NUMBER

103. How many people in this household are employed . . .

Full-time? ____________

Part-time? ____________

HAND RESPONDENT CARD H

104. For statistical purposes, what is your best estimate of your total household income from all sources for 1984?

1 UNDER $5,000
2 $5,000 - $9,999
3 $10,000 - $14,999
4 $15,000 - $19,999
5 $20,000 - $29,999
6 $30,000 - $39,999
7 $40,000 - $49,999
8 $50,000 AND OVER
9 REFUSED
10 DON'T KNOW

105. What is your best estimate of your personal income from all sources for 1984?

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7 $40,000 - $49,999
8 $50,000 AND OVER
9 REFUSED
10 DON'T KNOW
11 NO PERSONAL INCOME

HAND RESPONDENT CARD I

106. Which of the groups on this card best describes you?

1 WHITE
2 BLACK
3 AMERICAN INDIAN, ALASKAN NATIVE
4 ASIAN, PACIFIC ISLANDER
5 OTHER (SPECIFY): ______________________

____

107. Are you of Spanish or Hispanic origin or descent?
1 YES
2 NO -- GO TO Q. 109

IF HISPANIC, ASK:

HAND RESPONDENT CARD J

108. Which of these descriptions best describes your Hispanic origin?

1 MEXICAN/MEXICAN-AMERICAN, CHICANO
2 PUERTO RICAN
3 CUBAN
4 CENTRAL/SOUTH AMERICAN
5 OTHER SPANISH/HISPANIC

Now, I'd like to talk to you about what you read in English. First, let's talk about newspapers.

109. How often do you read a newspaper in English -- every day, a few times a week, once a week, less than once a week, or never?

1 EVERY DAY
2 A FEW TIMES A WEEK
3 ONCE A WEEK
4 LESS THAN ONCE A WEEK
5 NEVER -- GO TO Q. 113

IF EVER READ A NEWSPAPER, ASK:

110. Is reading the newspaper part of your job or school work?	1 YES 2 NO

IF READ NEWSPAPER, CONT.

HAND RESPONDENT CARD K

111. This is a list of different parts of newspapers. Would you please tell me which parts you generally read when looking at a newspaper? (CIRCLE ALL THAT APPLY.)

(Q. 111) READ		(Q. 112) MINUTES READING
1	NATIONAL/INTERNATIONAL NEWS	_______
2	STATE/LOCAL NEWS	_______
3	SPORTS	_______
4	WOMEN'S/SOCIETY PAGES	_______
5	EDITORIAL PAGE	_______
6	FINANCIAL NEWS OR STOCK LISTINGS	_______
7	COMICS	_______
8	CLASSIFIED ADS	_______
9	OTHER ADVERTISEMENTS	_______
10	TV LISTINGS	_______
11	MOVIE OR CONCERT LISTINGS	_______
12	BOOK, MOVIE, OR ART REVIEWS	_______
13	HOROSCOPE	_______
14	OTHER:_______________________	_______
	_______________________________	_______
	_______________________________	_______

PROBE: Do you read any other parts of the newspaper? (RECORD ABOVE IN Q. 111.)

112. Next, I'd like to ask you some questions about those parts of the newspaper you read. Many people just skim parts of newspapers and spend more time with other parts. On the average, about how much time do you spend reading _________? (INTERVIEWER: ASK FOR ALL PARTS CIRCLED.)

113. Next, let's talk about magazines. About how many different magazines do you look at or read in English on a regular basis?

_________ RECORD NUMBER

X NONE -- GO TO Q. 117

IF ANY MAGAZINE READ, ASK:

114. What are the names of the magazines or journals you read most regularly for work or school? (LIST UP TO 5 MENTIONS.)

LIST UP TO 5 MENTIONS	Q. 116 TIME SPENT

X NONE

115. What are the names of the magazines you read most regularly for your own interest?

LIST UP TO 5 MENTIONS	TIME SPENT

X NONE

FOR EACH MAGAZINE ON Q. 114 AND Q. 115, ASK:

116. How many hours do you spend reading (MAGAZINE) each month? (RECORD HOURS. IF LESS THAN AN HOUR, RECORD NUMBER OF MINUTES AND INDICATE THAT THE ANSWER IS IN MINUTES. PROBE IF TIMES DO NOT SEEM REASONABLE.)

117. Next, I'd like to ask you about books you may have read in English recently. They might be fiction or nonfiction books, hardcover or paperbacks, and you don't need to have read the entire book, cover to cover. In fact, you may have just looked something up in a dictionary or an encyclopedia.

Have you read or looked something up in a book during the last six months?

1 YES
2 NO -- GO TO Q. 121

IF "YES," ASK:

118. Here is a list of types of books. (HAND RESPONDENT CARD L.) Would you please tell me if you've read any of these types of books in the past six months? (INCLUDE COURSE BOOKS. CIRCLE ALL THAT APPLY.)

	(Q. 118) READ	(Q. 119) TIME SPENT (HOURS)	(Q. 120) WORK	SCHOOL	INTEREST
FICTION	1	________	1	2	3
RECREATION OR ENTERTAINMENT	2	________	1	2	3
CURRENT AFFAIRS OR HISTORY	3	________	1	2	3
INSPIRATION OR RELIGION	4	________	1	2	3
SCIENCE OR SOCIAL SCIENCE	5	________	1	2	3
REFERENCE	6	________	1	2	3
MANUALS	7	________	1	2	3
OTHER ____________	8	________	1	2	3

PROBE: Have you read any other types of books?

FOR EACH TYPE OF BOOK READ, ASK:

119. In the average week, how many hours do you spend reading (TYPE) books?

(IF LESS THAN AN HOUR, RECORD MINUTES.)

120. When you read (TYPE) books, are you generally reading them for work, for school, or for your own interest? (CIRCLE ALL THAT APPLY.)

121. Finally, I would like to ask you about other kinds of things you may read in English during the course of your day.

Here is a list of things some people read. (HAND RESPONDENT CARD M.) Please tell me the numbers of the things you ever look at or read. (CIRCLE ALL THAT APPLY.)

	(Q. 121) READ	(Q. 122) WRITE	(Q. 123) READ OR WRITE FOR WORK OR SCHOOL
PERSONAL LETTERS	1	1	1
NOTICES ON BULLETIN BOARDS	2	2	2
MEMOS, BUSINESS LETTERS	3	3	3
SCHEDULES, TIMETABLES	4	4	4
LISTS	5	5	5
MESSAGES ON BLACKBOARDS	6	6	6
REPORTS, PAPERS	7	7	7
DIAGRAMS, BLUEPRINTS	8	8	8
NEWSLETTERS, BROCHURES	9	9	9
COMPUTER PROGRAMS	10	10	10
FORMS	11	11	11
CHARTS, GRAPHS	12	12	12
LABELS, TAGS	13	13	13
WARRANTIES	14	14	14
CATALOGS	15	15	15
BILLS, INVOICES	16	16	16
MAPS	17	17	17
LEGAL DOCUMENTS	18	18	18

122. Now, which of these things do you ever write yourself? (CIRCLE ALL THAT APPLY.)

123. Which of these do you read or write for work or school?

INTERVIEWER: PLEASE NOTE.

124. SEX: 1 MALE
2 FEMALE

INTERVIEWER'S NAME: ______________________________

I TESTIFY THAT THE DATA HAVE NOT BEEN FALSIFIED, THAT THE INTERVIEW WAS COMPLETED ACCORDING TO SPECIFICATIONS AND AGREE TO KEEP ALL INFORMATION GATHERED IN CONFIDENCE.

TIME INTERVIEW ENDS: ______________ [ ] AM [ ] PM

INTERVIEWER ID NUMBER: ____________ DATE: ______________

APPENDIX E

APPENDIX E

CONSULTANTS USED TO DEVELOP AND REVIEW ASSESSMENT AND EXERCISES

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